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Signification and Truth
Epistemology at the Crossroads of Semantics and Ontology in Augustine's Early Philosophical Writings*

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Abstract

This article is about the conception of truth and signification in Augustine's early philosophical writings. In the first, semantic-linguistic part, the gradual shift of Augustine's position towards the Academics is treated closely. It reveals that Augustine develops a notion of sign which, by integrating elements of Stoic epistemology, is suited to function as a transmitter of true knowledge through linguistic expressions. In the second part, both the ontological structure of signified (sensible) things and Augustine's solution to the apparent tautologies of mathematical truths are examined. Again his notion of sign turns out to be the keystone; this time, however, the natural in contrast to the conventional sign of linguistic expressions. In their complementarity, both parts show how Augustine intensely struggles with and (partially) overcomes the skepticism of the sensible world through his conception of sign and signification.

Keywords

Augustine, semantics, theory of signs, numbers and proportions, skepticism, theory of truth, theory of judgment

Introduction

According to Augustine, the "shore of the *beata vita*" can be reached only by passing through the "harbour of philosophy".[1] This idea has a number of

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1) See Aurelius Augustinus, *De beata vita*, I, 1 [CCSL 29, 65.1 sq.].

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far-reaching implications, the most important of which consists in the identification of the path to happiness with the acquisition of knowledge. Furthermore, just as this metaphor speaks of only a single harbour and a single shore, we must conclude that there is only a single applicable method, namely philosophy, and a single goal in the search for wisdom, namely, the one truth. However, if man can attain happiness only through finding (and attaining) the one truth, then the intriguing question arises of what exactly that truth *is*. The present study focuses on just this question. This focus, however, is determined by certain peculiarities resulting from the fact that truth, as expressed by Augustine's metaphor, can be attained only through knowledge.

Here, the following three standard observations must be made: first of all, knowledge is notable for being at the interface of things or matters of fact (objects), and the cognitive mental acts (of knowing subjects) that refer to those objects. Secondly, these mental acts have specific contents that must be expressed in sentences in order to be communicated to other subjects. This is also required, thirdly, if one wishes to determine the truth or falsity of the knowledge thus acquired. Consequently the question of truth in its epistemic dimension necessarily involves at least two spheres: on the one hand, the linguistic-semantic sphere, including the relationship between linguistic signs, their signification and truth; and on the other hand, the ontological sphere, embracing the connection between objects, their ontological constitution and truth. These perspectives are reflected in the twofold division of our article. While the first part addresses the question of the relationship between sign, signification and truth in its linguistic-semantic dimension, the second section brings the ontological side of the matter to the fore.[2]

Augustine discusses the problem of knowledge and truth from both of these perspectives, as is perhaps well-known. However, as we shall try to show with our study, these perspectives represent two complements which together constitute Augustine's complex notion of truth. As is evident from his early philosophical writings, this notion is based in extra-mental things and presupposes sensory perception as the starting point for the process of cognition. Nevertheless, it is an intelligible truth which can be known with certainty and is furthermore communicable. The key notion we will elucidate in this connection is Augustine's concept of 'signification', which not only bridges the gap between the semiotic level of linguistic expressions and knowledge about those things to which language refers, but also connects the ontic with the intelligible side of things. This double function of 'signification', which is based upon Augustine's fundamental distinction between *signa data* and *signa naturalia*, will be brought to light and studied in greater detail. On this basis we shall argue that Augustine, with respect to the acquisition of knowledge through sense perception as well as to the communicability of knowledge, is far less skeptical than is usually assumed.[3]

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[2] This subdivision corresponds to our respective responsibilities in the composition of this paper. The first part of its main body is the work of Laurent Cesalli, while the second belongs to Nadja Germann.

In order to develop this hitherto underacknowledged peculiarity of his thought we will, firstly, concentrate on the earliest of the writings relevant to our discussion, namely, *Contra academicos*, which appears to lead to a skeptical dead-end with respect to the sheer attainability of knowledge. For according to this text, the only truths man can obtain, apart from introspective recognition, are logical-mathematical tautologies. *De dialectica*, secondly, written shortly after *Contra academicos*, will reveal a solution to the problem of how to communicate knowledge. *De musica*, thirdly, the most recent of our texts, even provides an explanation concerning the certain cognition of intelligible truths inherent to extra-mental reality. Furthermore, it imparts an at least partial escape from *Contra academicos*' apparent dead-end, by offering a further means for the interpretion of mathematical truths.

1. From a Linguistic-Semantic Point of View

We would like to open the "linguistic-semantic" part of our discussion with an anachronistic observation; one however, that is of central importance for grasping the relationship between signification and truth. When computer scientists are asked whether or not we will soon be able to work with man-made machines capable of developing their own languages, the standard answer is the following: in order to build computers capable of developing their own languages, the nature of human language must first be understood. However, we will only have understood the nature of human language once we are able to give a scientific description of the qualitative difference between mere information and genuine knowledge.[4] This somewhat sibylline answer to a *prima facie* technical question has an obviously anthropological dimension. From the perspective of the historian of philosophy, this answer appears as a possible allusion to the definition of man given by Aristotle in the first book of his *Politics*: What differentiates human beings from other socially-organized animals such as, for example, bees—and here we might add *and from computers*—is the ability to develop language.[5] In brief, and etymologically expressed: the human being is a "logical" animal. However, what modern computer scientists express in their own language is by no means a new idea.

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[3] That is, on philosophical grounds. For it is clear that even where the skepsis seems to have annihilated the hope of certain knowledge by human means alone, Augustine always leaves the door open for another (theological) type of certain knowledge, see Th. Fuhrer, *Augustin Contra Academicos vel De Academicis*, Bücher 2 und 3, Einleitung und Kommentar (Berlin–New York, 1997), 31 sqq.

In the following we will consider one concrete and confirmed historical attempt to analyze this very difference between mere information and genuine knowledge. This attempt was made by recently-retired professor of rhetoric, Augustine, sometime between the summer of 386 and Easter's Eve of the following year in the vicinity of Milan. We will make use primarily of two sources: Augustine's early dialogue *Contra academicos* and his treatise *De dialectica*.[6] We wish to answer the question: "what elements of a conception of truth can be found in Augustine's critique of skepticism as well as in his theory of linguistic signs and signification?"[7]

Accordingly, the linguistic-semantic part of our investigation will be divided into two sections. We will first consider Augustine's position regarding skepticism in *Contra academicos* and then shift to his semantic theory as it is expressed in *De dialectica*.

1.1. *A Philosophical Dead-End*

Faithful to his main source, Cicero's *Libri academici*, Augustine discusses the central skeptical theses of the so-called middle and new Academy.[8] According to Augustine, the skeptic's position can be summed up as follows: since nothing can be known with certainty by our senses, nor anything judged with certainty by our reason, we have no adequate grounds on which to base assent.[9] This amounts to saying that certain knowledge, that is, cognition of truth, is unachievable. Now, Augustine's intention is nothing other than the refutation of skepticism.[10] In fact, his main thesis in *Contra academicos* is that knowledge is possible and truth can therefore be cognized.[11] The reason for rejecting the skeptic's philosophical position is linked, on the one hand, to Augustine's own intellectually motivated quest for truth and, on the other hand, to the incompatibility of skepticism and faith, as faith seems indeed to presuppose assent. However, according to Augustine, the mere quest for truth is insufficient for human happiness, which will only be achieved once truth has actually been found.[12]

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[4] See, for example, Peter Norwig, and Stuart Russell, *Artificial Intelligence: A Modern Approach*, 2nd ed. (Upper Saddle River, NJ, 2003), chap. 1.2.8 ("linguistics"). In the frame of this paper, we understand the difference between information and knowledge as follows: a simple factual perception ("something in the outer world is affecting my sense of vision") belongs to the level of mere information, while genuine knowledge would be distinguished by an "epistemic upgrade" ("what I see is, for example, a tree").

[5] Aristotle, *Politics*, I, 2, 1253a7-10.

[6] The *Contra academicos* and *De dialectica* will be quoted from the following editions: Aurelius Augustinus, *Contra academicos*, ed. W.M. Green (Turnhout, 1970), 3-61 [= CCSL 29]; Aurelius Augustinus, *De dialectica*, ed. J. Pinborg, transl. B. D. Jackson (Dordrecht–Boston, 1975).

[7] For Augustine's conception of philosophy and its relationship to faith, see Eckard König, *Augustinus* Philosophus. *Christlicher Glaube und philosophisches Denken in den Frühschriften Augustins* (München, 1970), 22-26 and 131-136.

[8] For the relationship of Augustine with the skepticism of the Academics, see Fuhrer, *Augustin*

The scenario depicted in *Contra academicos* reflects the historical debate which took place between members of the middle and new Academy, such as Archesilaus and Carneades, and Stoic philosophers, such as Zeno and Chrysippus.[13] What was at stake in that debate was the validity of the so-called Stoic criterion of truth. This criterion, in Augustine's own words, is as follows:

Contra Academicos (cit. n. 3 above), 31-33, as well as Kurt Flasch, *Augustin. Einführung in sein Denken* (Darmstadt, 1994), 36 and 55 sq.

[9] Augustine, *Contra academicos*, II, 5, 11.

[10] Note that Augustine's position towards the middle and new Academics is ambiguous: on the one hand, he is hostile to skepticism because it discourages human beings in their legitimate quest for truth; on the other hand, Augustine believes the Academics had an esoteric, genuine Platonic doctrine and that they in fact tried to hide their authentic philosophy behind a veil of skepticism (see Augustine, *Contra academicos*, II, 10, 24 and III, 17, 38).

[11] Augustine, *Contra academicos*, II, 9, 23.

[12] Augustine, *Contra academicos*, I, 9, 24-25.

[13] See Augustine's own historical considerations on the topic in *Contra academicos*, II, 4, 10-6, 15. Just as the thesis of the Academics that truth cannot be known stands in opposition to Augustine's view, so is the materialism of the Stoics incompatible with his philosophical (neo-Platonic) orientation. One should add here that Augustine's main access to ancient Greek and Hellenistic philosophy was provided by the writings of Cicero (106-43), himself an eclectic philosopher showing sympathy for both Stoics and Academics. That Augustine had direct knowledge of Stoic philosophy, however, is evidenced in the obvious Stoic character of his *De dialectica* (see below, p. 9-15) and his mention (*Contra Cresconium*, I, 19, 24) of having read some *libri Stoicorum* (see the introduction in Pinborg, *De dialectica* (cit. n. 5 above). For the influence of Stoic philosophy on Augustine, see M. Colish, *The Stoic Tradition from Antiquity to the Early Middle Ages*, 2 vols, (Leiden, 1985) vol. I, 329 sq. and vol. II, 142-238, esp. 181-198.

> As for their opinion that truth could not be perceived, they apparently took this from the famous definition of the Stoic, Zeno, who said that truth could be perceived that was so impressed on the mind from the source of its origin, that it could not originate from whence it did not originate. This can be stated more briefly and plainly in the following way: truth can be perceived by those signs that cannot be present in what is not true.[14]

That which "is impressed on the mind" is a presentation—in the technical vocabulary of the Stoics, a *phantasia*. Now, a *phantasia* which exists in such a way that it can arise only from the object it represents and no other, is one which can serve as the adequate object of our assent. Such a *phantasia* is then called a *phantasia kataleptike*—a comprehensive presentation.[15] For that reason, it also qualifies as "true". As can be inferred from the opening lines of the text just quoted, the Academics developed their own skeptical position in reaction to the Stoic criterion of truth. There cannot be such a thing as a *phantasia kataleptike*, say the Academics, since neither our senses nor our reason are able to distinguish between a comprehensive and a non-comprehensive presentation.

Augustine now mounts a twofold critique of the Academics, partly deconstructive and partly constructive.[16] First of all, on the negative side, he purports to show the inconsistency of the Academic's critique of the Stoic criterion of truth, as formulated by Zeno; second, he intends to show in a positive way *where*, that is, in which domain of human understanding, certain knowledge can be attained.

In his deconstructive criticism of the Academics, Augustine points towards a dilemma from which no skeptical philosopher may escape without damage: either Zeno's Criterion is valid—in which case however skepticism is abandoned—or it is not, in which case something *can* be known, even though it may share characteristics with the false.[17] And we might add here the classical argument against skepticism, that no position can be refuted without assent to the truth. As a consequence, every argument against the Stoic criterion is a self-refuting one.

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[14] Aurelius Augustinus, *Against the Academics*, transl. J. J. O'Meara (New York, 1951), 76-77 [= Ancient Christian Writers, 12]; Latin text: *Contra academicos*, II, 5, 11 [CCSL 29, 24.10-16]. See also *Contra academicos*, III, 9, 18 and Therese Fuhrer, 'Das Kriterium der Wahrheit in Augustins „Contra Academicos"', *Vigiliae Christianae* 46 (1992), 257-275, esp. 258-262.

[15] On the notion of *phantasia kataleptike*, see F.H. Sandbach, *Phantasia Katalēptikē*, in *Problems in Stoicism*, ed. Alexis A. Long (London, 1971), 9-21; for the main doxographical sources of that notion—Diogenes Laertius (*The Lives and Opinions of Eminent Philosophers*, VII, 46 and 54), Cicero (*Academica*, II, 77-78), Sextus Empiricus (*Against the Professors*, VII, 247-252)—see Alexis A. Long, and David N. Sedley, *The Hellenistic Philosophers*, 2 vols. (Cambridge, 1987, vol. II, 243-254 (section 40)).

[16] For a detailed analysis of that critique see Fuhrer, *Augustin Contra Academicos* (cit. n. 8 above), 144-158 and 303-307.

The constructive part of Augustine's critique is for our purposes more interesting. In it, Augustine's criticism of the skeptics appears already somewhat complicated, the skeptic's position being, in fact, partially accepted. The crucial point is of course to determine to what extent Augustine is ready to go along with the argument of the skeptics and at which point he is compelled to leave it behind. The answer to that question is symptomatic of Augustine's philosophical position overall. Simply put, it could be said that this position expresses a fundamental mistrust of the senses. In fact, in *Contra academicos* Augustine appears to be a skeptical thinker with regard to the senses: they cannot provide us with certain knowledge.[18] Therefore, the constructive part of his critique of skepticism must entail the opening up of an epistemic space for certain knowledge which is not grounded in sense perception. But where can such knowledge be obtained? Augustine distinguishes two realms in which certain knowledge, which is to say truth, is obtainable. The first is the subjective, introspective domain—i.e., that one lives, and knows with certainty that he lives; or that one perceives something (with or without certainty), and knows with certainty that one is perceiving something.[19] The other domain is that of logical and mathematical truths—propositions of the form '*p or not p*' as well as arithmetical equations such as '2 + 3 = 5' can impossibly be false, says Augustine.[20]

In summary, Augustine's criticism of skepticism in *Contra academicos* leads to a conception of truth as something that cannot be known through the senses, but only through reason.[21] Although arguing against the Academics, Augustine does not take on *tel quel* the Stoic criterion of truth; rather, he displaces, so to speak, its field of application from the sensible to the intellectual realm. That move is not without consequence: for the two types of truth which Augustine acknowledges, the purely subjective and the logical-mathematical, pay a high price for their certainty. The former is essentially non-communicable and the latter is what we in modern terms would call empty and tautological.[22] Between desperately private and seemingly tautological truths, however, there lies an entire domain of human activity and knowledge to which, it would seem, truth must remain foreign: the domain of language. Spoken words, those sensibly-perceptible entities, appear here to be excluded as potential truth-bearers. This seems to be the ineluctable consequence of Augustine's critique of skepticism as it unfolds in *Contra academicos*, a pessimistic conclusion which leaves the reader of that text with the unsettling question of why one should continue to discuss, write, read or teach—as Augustine obviously did.[23] The confinement of certain knowledge to logical-mathematical or introspective truths leads to the question of the epistemic value of linguistic expressions: can linguistic signs be the vehicle of true knowledge? Augustine's theory of signification in *De dialectica* offers both an answer to that question and an elegant solution to the problem.[24]

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[17] Augustine, *Contra academicos*, III, 9, 21.

[18] The epistemological program *a corporalibus ad incorporalia* is a leitmotiv of Augustine's philosophical writings. See for exemple Augustine, *Contra academicos*, III, 11, 26, as well as Augustine, *De diversis quaestionibus lxxxiii*, q. 9 (*Utrum corporeis sensibus percipi veritas possit*), where the answer to that question is clearly negative.

[19] See Augustine, *Contra academicos*, III, 9, 19.

[20] See Augustine, *Contra academicos*, III, 11, 24 and III, 13, 29.

[21] Here one cannot help but think of Anselm of Canterbury—himself a careful reader of Augustine—and his definition of truth as *sola mente perceptibilis* (see Anselm of Canterbury, *De veritate*, 11).

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[22] For the sake of clarity, we fall back on this modern terminology throughout this study. Beyond the terminological ascpect, however, the question arises whether mathemacial truths as Augustine understands them in *Contra academicos* correspond to what we mean today whith the word 'tautology'. We see the justification of this choice in the fact that the recognition of mathematical truths as cognizable in *Contra academicos* is not presented by Augustine as a way out of skepticism: although it is a kind of truth that can be attained by human subjects, it does not increase their knowledge—just as tautologies do not. Otherwise, it would remain unclear why Augustine insists on several occasions in *Contra academicos*, that he still did not reach any certain knowledge (see *Contra academicos*, II, 23 and 30 as well as III, 5 and 43).

[23] For the importance of communication in Augustine's conception of language as compared to Aristotle's, see Irène Rosier-Catach, 'Aristotle and Augustine. Two Models of Occidental Medieval Semantics', in *Signs and Signification*, ed. H.S. Gill, and G. Manetti, 2 vols. (New Dehli, 1999-2000), vol. II, 41-62, esp. 41-42.

[24] It is a well-known fact that Augustine's position on the question of the epistemic value of linguistic signs changed over time: In the *De magistro* (written in 389, e.g. in X, 34), he denies for example the capacity of words to teach us anything and appears as a skeptic with respect to language. This position will be nuanced in *De doctrina christiana* (written in 396), where the notion of linguistic sign finds a more positive appreciation (see for example II, 31, 48). In the *De trinitate*, finally, the theory of the inner (mental) word (*verbum nullius linguae, De trinitate*, XV, 10, 19) shows a fully dematerialized notion of the "linguistic" sign—'linguistic' here having meaning only insofar as we acknowledge that Augustine's theory of the inner word was an early form of mental language; on this aspect, see Claude Panaccio, *Le discours intérieur. De Platon à Guillaume d'Ockham* (Paris, 1999), 108-119. Our point in the present study, however, is to determine how far if at all Augustine's theory of signs and signification in *De dialectica* offers an alternative to the skeptical attitude towards sensibly-transmitted knowledge which he adopts in *Contra academicos*.

1.2. *Linguistic Signification as a Way Out*

Dialectic holds a predominant position, for Augustine, amongst the language-related or trivial sciences.[25] It is not a descriptive, but rather a reflexive discipline of the highest order; for in it, the nature and value of reason come to light. Dialectic is indeed essentially related to spoken language, but it is not primarily a phonetic science: "that which sounds", says Augustine in *De dialectica,* 5, "is not the concern of dialectics".[26] However, without that which sounds, without the words, there could be no dialectics, at least not in the sense in which that discipline is presented by Augustine in his treatise of the same name: the *dialectica* is the *scientia bene disputandi*[27] and there is no dispute without words. Thus that which sounds is an indispensable means for every dialectical cognition. Therefore, the two notions of *signum* and *significatio* play a central role in Augustine's treatise. They are the two elements, respectively a material vehicle and a relation, which allow the transition from that which sounds, and is not essential, to that which does not sound and *is* essential to dialectics.

Let us begin with *significatio*. What levels and entities are involved, according to Augustine, in the semantic analysis of language? The following famous passage gives a detailed answer to that question:

> Now that which the mind, not the ears, perceives from the word and which is held within the mind itself is called a *dicibile*. When a word is spoken not for its own sake but for the sake of signifying something else, it is called a *dictio*. The thing itself which is neither a word nor the conception of a word in the mind, whether or not it has a word by which it can be signified, is called nothing but a *res* in the proper sense of the name. Therefore, these four are to be kept distinct: the *verbum*, the *dicibile*, the *dictio* and the *res*.[28]

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[25] See Aurelius Augustinus, *De ordine*, ed. W.M. Green (Turnhout, 1970), 89-137 [= CCSL 29]; ibid., II, 13, 38.

[26] Augustine, *De dialectica*, 5 [ed. Pinborg, 88.18].

[27] See Augustine, *De dialectica*, 1, 1.

[28] Augustine, *De dialectica*, 5 [transl. Jackson, 89-91]; Latin text [ed. Pinborg, 88.5-90.9]. For a detailed commentary on the distinction between *verbum, dicibile, dictio* and *res*, see Hans Ruef, *Augustin über Semiotik und Sprache. Sprachtheoretische Analysen zu Augustins Schrift "De dialectica"* (Bern, 1981), 82-115; John M. Rist, *Augustine. Ancient Thought Baptized* (Cambridge, 1994), 23-40; Stephan Meier-Oeser, *Die Spur des Zeichens. Das Zeichen und seine Funktion in der Philosophie des Mittelalters und der frühen Neuzeit* (Berlin–New York, 1997), 7-13; Klaus Kahnert, *Entmachtung der Zeichen? Augustin über Sprache* (Amsterdam, 1999), 9-11 and 35-45; Ch. Kirwan, 'Augustine's Philosophy of Language', *The Cambridge Companion to Augustine*, ed. Norman Kretzmann and Eleonore Stump (Cambridge, 2001), 186-204; G. Manetti, *Le teorie del segno nell'antichità classica* (Milano, 1987), 226-229.

The mind perceives something in the material, spoken word (*verbum*), as its intelligible content. A *verbum* coupled with a significate different from itself is then called a *dictio*. That which is perceived in the *dictio* is the *dicibile*, which is only intellectually perceptible *and* must be distinguished from the extramental object, namely the *res*. Such intellectual perception of an intelligible content in or from a material object such as a word is nothing other than *significatio*. Whenever something that sounds presents the mind with something to be cognized, then that sounding thing is at the same time a *signum*—a sign:

> A sign is something which is itself sensed and which indicates to the mind something beyond the sign itself.[29]

The spoken word as sign is the object of a twofold perception with respectively different contents: on the one hand, the sounding word itself is the object of sense perception; on the other hand, the intelligible content, or *dicibile*, transmitted by it is the object of the intellectual perception of the mind, or *animus*.

Just as the Augustinian discussion of skepticism in *Contra academicos* presents a Stoic component—namely, insistence on the possibility of human beings discovering the truth—so too must Augustinian dialectics be considered in the light of its Stoic sources.[30] The question of whether the triad *semai-*

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[29] Augustine, *De dialectica*, 5 [transl. Jackson, 87]; Latin text [ed. Pinborg, 86.10]. The conception of the *verbum* as a sign—a view that seems very natural today—was not a standard position in the philosophy of antiquity. In the Peripatetic and Stoic traditions, signs (*semeia*) are rather indices, symptoms, or premises, and if Augustine is not the first to speak of words as signs (Plato, Aristotle and the Stoics before him did as well), the word (*verbum*), as a *signum datum* as opposed to *signum naturale*, acquires in Augustine a newly defined place and value: on the one hand, it is integrated into a general theory of signs which will be fully developed in *De doctrina christiana* (II, 1, 1-3); on the other hand, the *verbum* as linguistic sign conserves the epistemic value of the traditional, pre-Augustinian conception of the sign (indication, symptom, premise). On that question, see Meier-Oeser, *Die Spur des Zeichens* (cit. n. 28 above), 1-34 and the part of the Introduction written by Peter Schulthess in Aurelius Augustinus, *De magistro—Der Lehrer*, introd., annot. and ed. by Therese Fuhrer (Paderborn, 2002), 26-41. On the conception of linguistic signs before Augustine, see C. Chiesa, *Sémiosis-signes-symboles: introduction aux théories du signe de Platon et d'Aristote* (Berne, 1991), as well as R.A. Markus, 'St. Augustine on Signs', *Phronesis* 2.1 (1957), 60-83, esp. 60-65, and J. Pépin, *Augustin et la dialectique* (Villanova, 1976), esp. 77-86.

[30] Besides the studies of Meier-Oeser (cit. n. 28 above), Ruef (cit. n. 28 above) and Schulthess (cit. n. 28 above) mentioned above, see B. Mates, *Stoic Logic* (Berkeley, 1953), 11-26.

non, semainoumenon and ***tynchanon***,[31] in which the second term is the famous *lekton*, stands in the background of the distinction made by Augustine between ***verbum*** (or ***dictio***), ***dicibile*** and ***res*** has been discussed at length in Augustinian studies.[32] However, what seems to have gone unnoticed in previous research, is the similarity between the Augustinian definition of sign and the Stoic notion of a presentation or ***phantasia***.[33] Here is one of the main doxographical sources for that notion:

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[31] Sextus Empiricus, *Against the Logicians*, II, 11. As the concerned passage reveals, the ***lekton***, the ***dicibile*** and their medieval correspondents ***enuntiabile*** and ***dictum*** belong to those kinds of entities that assume the role of specific, non-material, semantic correlates of linguistic expressions; on this point, see L. Cesalli, *Le réalisme propositionnel. Sémantique et ontologie des propositions chez Jean Duns Scot, Gauthier Burley, Richard Brinkley et Jean Wyclif* (Paris, 2007), 34-36.

[32] See for example Meier-Oeser (cit. n. 28 above, 12 sq.), who himself, like Ruef (cit. n. 28 above, 108 sq.), does not see in the Stoic ***lekton*** the equivalent of the ***dicibile***, while Colish (cit., n. 13 above, vol. I, 329 sq.), Manetti (cit. n. 28 above, 227) and Jackson, the translator of *De dialectica*, are convinced of the contrary, see B.D. Jackson, 'The Theory of Signs in St.Augustine's *De doctrina christiana*', *Revue des Etudes Augustiniennes* 15 (1969), 9-49, esp. 47 sq. The main arguments against the affinity between ***lekta*** and ***dicibilia*** are ***a)*** that ***dicibilia*** are mental entities whereas ***lekta*** are not, since the Stoics conceived of thought as being material; ***b)*** that ***lekta*** are that which is signified, while according to Augustine, that which linguistic expressions signify are ***res*** and not ***dicibilia***; ***c)*** that ***dicibilia*** entail the possibility of being said and thus must be prior to actual verbal expressions whereas ***lekta*** are consequences of verbal expressions. On that point, see G. Nuchelmans, *Theories of the Proposition. Ancient and Medieval Concepts of the Bearer of Truth and Falsity* (Amsterdam–London, 1973), 116 sq. Far from wanting to assert the identity of ***lekton*** and ***dicibile***, we wish to argue for the claim that the two entities have remarkable characteristics in common: ***d)*** they both represent that which is neither a linguistic sign nor a thing; ***e)*** they both are essentially linked with mental activity: the mind perceives the ***dicibile*** (Augustine); the mind grasps and contains the ***lekton*** (Stoics). As for the arguments contra adduced above (*a-c*), the following observations can be made: 1. The ***dicibile*** is not a thought but rather that which we grasp through a mental act—an intelligible content which, just like the ***lekton***, must be immaterial. 2. That ***lekta*** are signified can be understood as the fact that they are the immediate correlate of spoken words (just as ***dicibilia*** are), but that does not mean that our linguistic expressions do not ultimately signify things (when we say 'Dion is walking', we definitely intend to say something about a human being and not about a ***lekton***). 3. The notion of ***lekton*** indeed entails an actual use of linguistic expressions, but, as Meier-Oeser himself notes (cit. n. 28 above, 12, n. 58), the Stoic notion of internal or mental speech offers an answer to that objection.

[33] Although the commentators of Augustine's *De dialectica*—Jackson (cit. n. 32 above), Ruef (cit. n. 28 above), Meier-Oeser (cit. n. 28 above), Schulthess (cit. n. 31 above), Kahnert (cit n. 30 above), Kirwan (cit. n. 30 above), Markus (cit. n. 31 above), Pépin (cit. n. 31 above), Rist (cit. n. 30 above) and Colish (cit. n. 13 above)—stress the Stoic background of Augustine's semantics, none has pointed out that Augustine's definition of sign in *De dialectica* shows striking similarities

> A presentation is a happening that occurs in the psyche, ***displaying both itself and that which caused it.*** For example, when by vision we look upon something white, what has occurred in the psyche through the act of seeing is an affect; and because of this affect we can say that there is a white object that it implies [italics mine].[34]

The similarity appears even more clearly if we compare the above-quoted passage from Aetius with the other, more detailed formulation of the definition of sign that Augustine gives in *De doctrina christiana*:

> For a sign is a thing which of itself makes some other thing come to mind, besides the impression that it presents to the senses.[35]

Do we have here a mere similarity between *definientes*, the Augustinian definition of sign and the Stoic definition of a presentation, or are the *definienda* themselves similar? We wish to suggest that there is more than a terminological resemblance, but certainly nothing like an identity of objects. The Stoic *phantasia* is not the same sort of thing as the Augustinian *signum*.[36] So the question has to be raised as to what could have been the philosophical motivation for Augustine to integrate into his definition of sign an element of the

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with the Stoic notion of *phantasia*. As a consequence, the question as to what this could mean for Augustine's philosophical conception of truth has not been addressed in the literature. Schulthess for example (cit. n. 28 above, 32-38) stresses the difference between the Stoic inferential notion of sign (a *semeion* is the antecedent of an inference) and the Augustinian notion of sign as a relation between a linguistic expression and its significate. He notes however (p. 38), that the "epistemic-logical notion of the inferential sign" is present in Augustine's definitions given in *De dialectica* and *De doctrina christiana*. Ruef (cit. n. 28 above, 108) mentions a type of *phantasia* (namely the *phantasia logike*, which is an expressible impression) while commenting on chapter 5 of *De dialectica*, but he does so in order to suggest a Stoic correspondent to the *dicibile* and not in connection with Augustine's definition of sign.

[34] Aetius, *Placita*, IV, 12 [transl. Sandbach, *Phantasia Katalēptikē* (cit. n. 17 above), 10]; greek text [*Stoicorum veterum fragmenta*, ed. I. von Armin, 4 vols. (Teubner, 1903-1924), vol. 2, 21 (n. 54)].

[35] Aurelius Augustinus, *De doctrina christiana*, ed. and transl. by R.P.H. Green (Oxford, 1995), 57. Latin text: ed. J. Martin (Turnhout, 1962), 1-167 [= CCSL 32]; ibid. II, 1, 1 [CCSL 32, 32.5-7].

[36] As a matter of fact, a *signum* is a corporeal thing that can be presented to the senses via a *species*, while a *phantasia* is precisely that through which a corporeal thing is represented (the corresponding element to the *signum* would be the *phantaston*, that is the corporeal thing which causes the *phantasia*). Furthermore, there are causal relations between a *phantasia* and that of which a *phantasia* is a *phantasia*, while there are no such relations between a *signum* and that which a *signum* signifies: language is conventional and representation is natural.

Stoic definition of *phantasia*—this element being the combination of the two moments of reflexivity (self-*ostentatio*) and transitivity (*ostentatio* of something else). In short, we believe that Augustine's reason for this integration was to ensure the epistemic value of words—that is of linguistic, sensible signs—in order to temper the rather skeptical outcome of the *Contra academicos*.[37] But why and how can the notion of *phantasia* help to achieve this goal?

As to the first question, the central role played by the *phantasia* in Stoic epistemology offers a plausible answer. It is the pivotal notion in the explanation of knowledge and its foundation in sense perception.[38] Above all, as we have seen (p. 5 sq.), the Stoic criterion of truth is nothing other than a peculiar kind of presentation, the so called comprehensive presentation or *phantasia kataleptike*. In linking his conception of the sign to the Stoic notion of presentation, Augustine displays his intention to provide linguistic signs—*they* are at stake in the *De dialectica*—with an essential epistemic value.

As to the second question—*how* is this goal to be achieved?—a brief comparison is required between the role played by the *species* of a sign in Augustine's analysis of signification and the role played by the *phantasia* of a thing in the Stoic's analysis of sense perception. When I *see* a tree, for example, my mind is affected by a presentation (or *phantasia*) such that I know that there is, in the external world, a material object which has caused my presentation, namely the tree I am now seeing: perception is a sense-based causal inference that informs me about the actual presence of an object in the external world. When I *understand* the spoken word '*arbor*'—that is, when this word successfully functions as a sign for me—my mind is affected by a *species* of the word '*arbor*' such that I know that this word refers to a kind of natural thing, namely a plant composed of a trunk, branches and leaves: signification is a sense-based epistemic inference that does not inform me about the presence of anything in the external world beyond the sound "*arbor*" itself,[39] but rather gives me access to a kind of mental content through which I know to what kind of things the word '*arbor*' refers. In Augustinian terminology: trees in the external world are the *res* we speak about when we correctly use the *signum* '*arbor*' and they are also the things we see, when we see trees. Whereas that which the *signum* '*arbor*' shows to my mind beyond itself is not a tree in the external world, but the *dicibile* I can grasp from the word '*arbor*': "Now that which the mind, not the ears, perceives in the word and which is held within the mind itself is called a *dicibile*" says Augustine in *De dialectica*.[40]

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[37] See above, p. 7 sq.

[38] See for example Diogenes Laertius, *The Lifes and Opinions of Eminent Philosophers*, VII, 49.

[39] There is of course the case of material supposition (mention vs. use), where the sounding word is at the same time signifier and significate (see the difference of *verbum* and *dictio* in *De dialectica*, 5), but this is a rather particular case. The crucial point is that one can use successfully the sign '*arbor*' without there being any tree around, while it is impossible (under normal conditions) to see a tree, when there is no tree around. In short, signifying is not representing.

To sum up: Augustine reaches the goal of ensuring the epistemic value of linguistic signs by taking the basic Stoic explanation-pattern of sense perception (self-*ostentatio* / *ostentatio* of something else) and making it work on two ontologically different levels. What we gain through signification is not information about the existence of the material cause of a presentation we have, but rather knowledge of some abstract or formal criteria by which to identify the things we are speaking about: signification is the way to obtain intelligible knowledge from a sensible object. This differs very significantly from Augustine's continually reaffirmed pessimism regarding the value of sense perception for cognition of truth: if truth is to be knowable, then the content of that knowledge must transcend the level of sense perception. This is precisely what the *signum* as defined in *De dialectica* and *De doctrina christiana* is designed to do. In terms of the example given above (seeing a tree / using successfully the word '*arbor*') the conclusion "there is something in the external world causing the impression I presently have" is mere information, while the content "that which is causing my actual impression is a plant composed out of a trunk, branches and leaves" is genuine knowledge (see p. 3 sq. above).

That is why there also can be linguistic truth-bearers, namely, propositions, why argumentation is possible, and why dialectics, the *disciplina disciplinarum*, is meaningful. If all of the above is true, then Augustine's definition of sign as well as his conception of signification can be seen as a positive consequence of his criticism of skepticism in *Contra academicos*. At the end of this Cicero-inspired dialogue, the cognition of truth is confined to the two sterile realms of subjective introspection and tautology, nevertheless the twofold nature of the linguistic sign—which on the one hand is perceptible by the senses and on the other presents the mind with an intelligible content—now opens up the possibility of delineating a third, intermediate domain in which truth can be cognized, namely, the domain of linguistic expressions.

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[40] Augustin, *De dialectica*, 5 [transl. Jackson, 89-91]; Latin text [ed. Pinborg, 88.5-90.9]. In that sense, the *dicibile* can be seen as an early form of the *verbum nullius linguae* of *verbum cordis* of the later *De trinitate*, XV and presents also some similarities with Frege's *Sinn* described as "eine Art des Gegebenseins des Bezeichneten" (a way of "being-givenness" of the significate), see G. Frege, 'Über Sinn und Bedeutung', *Zeitschrift für Philosophie und philosophische Kritik* 100 (1892), 25-50, esp. 26.

1.3. *Interim Results*

(1) A philosophical dead-end. Despite Augustine's rejection of the general skeptical claim that nothing can be known with certainty, the discussion of the Academics' doctrine in *Contra academicos* leads to a conclusion that is itself partially skeptical: if truth can be known, then not through the senses. The 'dead-end' character of this philosophical conclusion becomes apparent if we observe the examples provided of the sort of truths which are knowable—introspective, private truths on the one hand, and analytical or tautological truths on the other—provided one is not content to reduce philosophy either to solipsism or mere formalism.

(2) The signification of linguistic expressions as a way out of skepticism. Signification, what a linguistic sign *does*, when it correctly functions as a sign, as defined by Augustine in *De dialectica*, makes possible a semantic conception of truth for linguistic expressions. According to Augustine, a sign is a thing that can be perceived by the senses—*se ipsum sensui ostendit*—and that nevertheless transmits an intellectual knowledge—*aliquid animo ostendit*. In other words, the *significatio* bridges the gap between what is perceived by the senses and what is perceived by the mind, i.e., the intelligible. This is achieved by the integration of elements from the Stoic definition of *phantasia* into the definition of sign, thus providing linguistic signs with epistemic value in spite of their material, sensible side: the *significatio* makes a *signum* out of a *verbum*. Contemporary computer scientists would say: *significatio* makes genuine knowledge out of mere information.

(3) The need for ontological foundation. The way out of skepticism offered by the signification of linguistic expressions is not sufficient, however, to set the Augustinian semantic conception of truth upon an entirely stable foundation. For, in order to be legitimately described as knowledge of truth, the fact that signs as sensible objects provide us with intelligible knowledge of the things to which they conventionally refer, still requires the fulfillment of a further condition. That is, the *res* signified by the *signa* must themselves participate in truth. Only with an examination of the ontological truth of signifiable objects and their perceivability will the linguistic-semantic aspect of the relation between signification and truth receive an entirely stable foundation.

2. Why Things are Semantically True

In his *Soliloquies*, Augustine advances the opinion that what exists, is true: "for that seems to me to be true which is".[41] His reason finds nothing objectionable in this view, and thus ascribes to reality, that is, to *res*, overall, ontic truth. It is precisely this truth of reality that founds the truth of linguistic expressions, since linguistic expressions refer to things (*res*).[42] Furthermore, as discussed above, linguistic expressions are signs (*signa*) and as such are part of a triadic relation between themselves, their interpreter and the thing signified. From this it follows that one must distinguish sharply between signs on the one hand and things on the other.[43] However, according to Augustine, there are also things which are at the same time signs.[44] But if this is the case, one must conclude that they have signification and thus possess beyond their ontic dimension a further, namely a semantic one. So there is the general question of the relation in which things stand to truth, and the more particular question of what things that are at the same time signs signify, as well as how, and with what truth-value. In short, then, it is this connection between things, signification and truth that will be pursued in this part of the study.

In occupying oneself with Augustine's reflections on reality, one quickly encounters a notable characteristic, namely the central role attributed to number. In the first place are his well-known general remarks on the meaning of number for the existence of the sensible world, as for example in *De libero arbitrio* II, 16, 42: "They [sc. the sky and the earth etc., NG] have forms because they have numbers. Take these away, and nothing will be left",[45] or in *De musica* VI, 17, 57: "But if you take these [sc. the numbers, NG] away from the earth, it will be nothing".[46] Especially in the latter writing, however, Augustine goes clearly beyond these general and also traditional expressions. There he develops, with respect to things, a complex theory of signs and knowledge, which consists of two complementary parts: on the part of the knowing subject a model of perception and knowledge, and on the part of the object of knowledge an ontological as well as semantic grounding of the structure of reality.[47] The basis is in both cases the same principle: number.

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[41] Aurelius Augustinus, *Soliloquiorum libri duo*, ed. W. Hörmann (Wien, 1986), 3-98 [= CSEL 89]; ibid., II, 5, 8 [my translation]; Latin text [CSEL 89, 56.14 sq.].

[42] Cf. *De dialectica*, 5 [ed. Pinborg, 86.7]: "Verbum est uniuscuiusque rei signum"; for the (objective) foundation of the truth of a proposition in the truth of reality, cf. in addition Augustine, *Soliloquia*, II, 5, 8 [CSEL 89, 55.18]: "Verum est quod ita se habet ut cognitori videtur (...)".

[43] Cf. *De dialectica*, 5 [ed. Pinborg, 86.8]: "Signum est quod (...) praeter se aliquid animo ostendit", while the *res* is that which "sentitur vel intelligitur vel latet" [ibid. 86.7 sq.].

[44] Cf. Augustine, *De doctrina christiana*, I, 2, 2 [CCSL 32, 7.1-14]: "Omnis doctrina uel rerum est uel signorum, sed res per signa discuntur. Proprie autem nunc res appelaui, quae non ad significandum aliquid adhibentur, sicuti est lignum lapis pecus atque huiusmodi cetera (...). (...) non autem omnis res etiam signum est"; ibid., II, 1, 1 [ibid., 32.1-3]: "Quoniam de rebus cum scriberem, praemisi commonens ne quis in eis adtenderet, nisi quod sunt, non etiam si quid aliud praeter se significant (...)". Cf. Meier-Oeser, *Die Spur des Zeichens* (cit. n. 28 above), 23-26 and 29.

In view of both of these characteristics and the above-mentioned central question of this part of the study, our procedure will be as follows. The investigation will begin with an examination of Augustine's conception of number and music on the basis of *De ordine* and *De musica*. Following this, the focus will turn, first to his numerological model of perception and knowledge, and second to his ontological as well as semantic founding of reality on the basis of number. Lastly, some main characteristics of the connection between things, signification and truth will be set out.

2.1. *Augustine's Conception of Number and Music*

In the second book of *De ordine*, Augustine discusses in detail the meaning and role of number in the realm of the scientific disciplines. There he outlines in an ideal way the development of the seven liberal arts, and describes their respective functions. While he identifies the task of the Trivium as "*recte docere*", he identifies that of the Quadrivium[48] as "*beate contemplari*".[49] The subject of the latter is things (*res*), and its goal consists in leading one from the beauty of sensible things, through their form and measure, to the underlying number:

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[45] Aurelius Augustinus, *The Problem of Free Choice*, transl. and ed. M. Pontifex (New York, 1955), 123. Latin text: Aurelius Augustinus, *De libero arbitrio*, ed. W.M. Green (Turnhout, 1970), 211-321 [= CCSL 29]; ibid., II, 16, 42 [CCSL 29, 265.25 sq.].

[46] Aurelius Augustinus, *De musica liber VI*, ed. and transl. Martin Jacobsson (Stockholm, 2002); ibid., VI, 17, 57, [ibid., 113]. Latin text: Aurelius Augustinus, *De musica. Bücher i und vi. Vom ästhetischen Urteil zur metaphysischen Erkenntnis*, ed. Frank Hentschel (Hamburg, 2002), 172.52. For further examples as well as literature cf. C. Horn, 'Augustins Philosophie der Zahlen', *Revue des Etudes Augustiniennes* 40 (1994), 389-415, esp. 389.

[47] For *De musica* cf. A. Keller, *Aurelius Augustinus und die Musik. Untersuchungen zu "De musica" im Kontext seines Schrifttums* (Würzburg, 1993); F. Hentschel, 'Einleitung', in Augustinus, *De musica. Bücher i und vi.* (cit. n. 46 above), p. vii-xxviii. Though the philosophical relevance of this text has long been recognized and though it has formed the object of several studies—mainly from an aesthetic perspective—its implications with respect to Augustine's theory of signs and signification are generally neglected, cf., for example, Hentschel's "Einleitung" where he emphasizes the epistemological as well as theological implications of our text, but does not draw a connection to Augustine's concept of signification. Even in Keller's thorough study this aspect is absent.

> Thence she [sc. reason, NG] advanced into the realm of the visible and, surveying heaven and earth, sensed that nothing other than beauty was pleasing to her, and within that beauty, forms, and within those forms, measures, and within those measures, numbers [...].[50]

Just as logic represents the core of the trivial arts, mathematics (number), is that of the quadrivial.[51] What this conception implies for the role of number, is that it is to be grasped as the means for laying bare the fixed and universal structure of the universe, beyond the characteristics or conventions of the world of appearance. Of significance for the topic of this study is the actual object regarded "mathematically" in the Quadrivium, namely, beauty. This a noteworthy detail insofar as Augustine's concept of beauty implies an agreement with mathematical laws.[52] This characteristic nevertheless proves to be a necessary condition for his conception of the relationship between things, signification and truth, as will now be demonstrated through the example of *De musica.*

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[48] Augustine does not use this term, which was brought up for the first time in Boethius, *De arithmetica*, I, 1, 64-130 [CCSL 94A, 11-14; the term itself on p. 11.64].

[49] Augustine develops a threefold functional division of those fields "in which the *rationabile* appears" in paragraph 35. The first, characterized as "acts relating to some goal", may be best described as ethics, not belonging to the sciences on which Augustine intends to focus in the following, whereas the other two are the "theoretical" sciences, cf. Augustine, *De ordine*, II, 12, 35 [CCSL 29, 127.1-6]. The identification of "*recte docere*" with the Trivium and "*beate contemplari*" with the Quadrivium as suggested here becomes clear against the background of paragraphs 35-42. The Trivium is introduced as a field dealing with the imposition of verbal expression and the translation of significations, cf. ibid. [ibid., 127.12-15]. The transition to the quadrivial arts, however, is presented as the desire of *ratio* to contemplate the divine beatitudes, cf. ibid., II, 14, 39 [ibid., 129.1 sq.].

[50] Augustine, *De ordine*, II, 15, 42 [my translation]; Latin text [CCSL 29, 130.1-4].

[51] No one—so Augustine sharpens his conviction to a point—should strive for the knowledge contained in these arts, i.e. the self-knowledge of the soul in the Trivium and the knowledge of God as the origin of all things in the Quadrivium, without this double science of dialectics and mathematics, cf. Augustine, *De ordine*, II, 18, 47 [CCSL 29, 132.2-133.6]. Notably, this distinction concerning the two approaches to knowledge corresponds to the twofold task of philosophy, cf. ibid. [ibid., 133.12-14]: "Cuius [sc. philosophiae disciplinae, NG] duplex quaestio est, una de anima, altera de deo. Prima efficit, ut nosmet ipsos nouerimus, altera, ut originem nostram".

[52] Cf., for this, Keller, *Aurelius Augustinus und die Musik* (cit. n. 47 above), 275 sq., who also stresses the connection between beauty and number; for Augustine's notion of beauty, cf.

Music, as one of the quadrivial arts, concerns all acoustic phenomena. Augustine permits no doubt to arise regarding the status of this object: It is not subject to the limitations and particularities of arbitrary appearances as is, for instance, language, but follows universally-valid laws. With respect to the universality of the object of his investigation, Augustine, at the end of the first book, emphasizes that the regularities and laws of music apply to motion (*motus*) in general.[53] In this way, he gives one to understand that the rules uncovered in music apply to everything subject to generation and corruption, thus to reality in general.[54] With regard to the notion of *res*, this concept has far-reaching consequences. '*Res*', according to this, means everything appropriate as object of the Quadrivium, that is, all 'natural' entities created by the One, or God.[55] And, if this interpretation is correct, we may further conclude that all 'natural' things, be they discrete or continuous, spatially or temporally moved, are driven by the mathematical structure of motion.[56] With respect

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A. Schmitt, 'Zahl und Schönheit in Augustins *De musica*, vi', *Würzburger Jahrbücher für die Altertumswissenschaft. Neue Folge* 16 (1990), 221-237, here in particular 224-237; W. Beierwaltes, 'Aequalitas numerosa. Zu Augustins Begriff des Schönen', *Wissenschaft und Weisheit* 38 (1975), 140-157.

[53] Cf., for example, Augustine, *De musica*, I, 13, 28 [ed. Hentschel, 64.27-31]: "Cum igitur ad ipsam rationem disciplinae huius, siquidem scientia est bene modulandi, non possit negari omnes pertinere motus (...)".

[54] This interpretation is further corroborated by Augustine's remarks in *De ordine* where his concept appears even farther-reaching than the one developed here. By emphasizing that the detected regularities are valid not only for arithmetic, geometry, and music, but astronomy as well (the fourth of the quadrivial arts), he also includes the supra-lunar motions of the heavenly bodies. Beyond all the other motions, those of the planets are the "most constant", "fixed", and "ultimate". Nonetheless they are controlled by exactly the same force, namely *dimensio* and *numerus*, cf. *De ordine*, II, 15, 42 [CCSL 29, 130.9-14].

[55] Cf., in this connection, Augustine's definition of *res* in *De dialectica*, 5 [ed. Pinborg, 86.7 sq.], referred to above, p. 16, n. 43; the relevant passage: "Res est quidquid vel sentitur, vel intelligitur, vel latet". If the interpretation presented here is correct, the "latent" things cannot be God, as suggested in a medieval gloss quoted by Pinborg in his notes, p. 125 (Chapter V, n. 2): "Sciuntur [sic, NG; one might expect 'sentiuntur' instead] enim corporalia, intelliguntur spiritalia, latet vero ipse deus et informis materia".

[56] With this characterization, we refer to the famous definition of the quadrivial arts, establishing *multitudo, magnitudo*, local movement and local rest as the respective subject-matters, see, for this, Boethius, *De arithmetica*, I, 1, 4 [CCSL 94A, 10.39-11.43].

to the underlying mathematical laws, moreover, we already have seen that Augustine is convinced of their rationality and reliability:

> But that one and two should not be three, and that two should not be twice as much as one, none of the dead was able, none of the living is able, no future man will be able to bring about.[57]

These laws of mathematics, according to Augustine, are subject to no change, but remain ever stable and are intelligible.[58] With these characteristics, i.e. stability and rationality, however, they partake of a feature prerequisite to the acquisition of knowledge and certainty. With respect to the question pursued here, it is crucial to notice that, according to our author, these mathematical laws inhere to 'natural' things. For this means that there is in the sensible, extra-mental world an intelligible structure which—when perceptible—can provide one with *certain* knowledge. Hence, the questions arise, first, of whether Augustine's concept of perception and knowledge contains an explanation for how man can extract these laws from sense-data, and, second, whether this knowledge consists of more than a tautological, empty truth.

2.2. *Augustine's Model of Perception and Knowledge*

In order now to shift to Augustine's model of perception and knowledge, we must first recall his conception of those kinds of objects which are able to transmit knowledge. As demonstrated in the first part of this study, Augustine is convinced that it is possible for man to attain knowledge. According to him, both the objects of knowledge and the *significata* of linguistic expressions are *res*.[59] This means that motion is generally suited to function as an object of knowledge, since it is a thing. In order to explain how men can cognize motion, and ultimately number as the mathematical structure of motion, Augustine differentiates in *De musica* between different types of numbers, beginning with *numeri corporales* at the level of the physical world, and proceeding to *numeri iudiciales* at the level of the human intellect. Those kinds of numbers which, next to the *numeri corporales*, are of importance in the process of perception, Augustine calls *numeri occursores, numeri recordabiles* and *numeri sensuales*, all of which belong to the human soul.[60]

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[57] Augustine, *De musica*, VI, 12, 35 [transl. Jacobsson, 77]; Latin text [ed. Hentschel, 138.58-62]. Cf., in this connection, Schmitt, 'Zahl und Schönheit' (cit. n. 52 above), 224 sq., who discusses Augustine's notion of number and emphasizes its both rational and dynamic character.

[58] For the mathematical laws and proportions, cf. Augustine, *De musica*, I, 11, 19 [ed. Hentschel, 48.34 sq.]: "(...) numeros, ut quas nobis leges certas fixasque monstraverint (...)"; ibid., I, 12, 23 [ibid., 56.123-126]: "Recte igitur istos tres quaternarius numerus sequitur, ei quippe tribuitur ista proportione collatio. Quae quantum valeat, eo iam assuesce cognoscere, quod illa unitas (...) in rebus ordinatis hac una effici potest (...)"; for similar notions, such as the *vis* of the numbers and the *lex* or *ius aequalitatis*, cf. Augustine, *De musica*, I, 11, 18 [ibid., 46.8]: "Namque ista vis numero inest (...)"; ibid., VI, 10, 27 [ibid., 124.49-54]: "Unde (...), nisi aequalitatis iure dominanti (...)"; ibid. [ibid., 126.61-64]: "Cur (...), nisi (...) aequalitatis lege (...)". With respect to the stable and self-identical character of number, cf. Horn, 'Augustins Philosophie der Zahlen' (cit. n. 46 above), 389, 396 sq. (referring, here, to *De libero arbitrio*, II, 7, 15—II, 8, 20). Regarding this aspect, cf. also *De ordine*, II, 19, 50 [CCSL 29, 134.24-27], as well as *Contra academicos* III, 11, 24, and III, 13, 29 (see above, p. 7 with n. 20).

Of essential significance in this connection are *numeri occursores*, since they stand at the interface of sensible phenomena on the part of the extra-mental world and sensory perception on the part of the perceiving subject. Augustine devotes a great deal of space in *De musica* to explaining how these numbers function. As analysis of the passage in question shows, the purpose of his extensive explication is to point out the fact that sense perception is an active, mental process, and that this mental act necessarily contains a "quasi-rational" component.[61] This reveals, however, that Augustine conceives of both reality and human perception (and finally: knowledge) as isomorphically structured: by the very laws of mathematics (*numerus*). Hence, already at this point we can assume that this isomorphism provides the means by which Augustine will explain the cognizability of extra-mental things.

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[59] Even in *De magistro*, where Augustine maintains his most pessimistic position regarding the significance of linguistic expressions for transmitting knowledge, he does not deny the possibility of cognition as such, cf., for example, *De magistro*, ed. K.-D. Daur (Turnhout, 1970), 157-203 [= CCSL 29]; ibid., X, 34 sq. [CCSL 29, 193.153-194.171]: "Et id maxime tibi nitor persuadere (...), per ea signa, (...), nos nihil discere (...). Non enim, cum rem ipsam didici, uerbis alienis credidi, sed oculis meis (...)"; cf., in this connection, Meier-Oeser, *Die Spur des Zeichens* (cit. n. 28 above), 13-20, with regard to the quotation in question, ibid., 17-19.

[60] There is yet one last species of numbers, *numeri progressores*, falling in the hierarchy between *numeri recordabiles* and *numeri sensuales*. According to Augustine, they form the basis for the production of *sonus* (or *motus*). On *numeri progressores* and their function, cf. Augustine, *De musica*, VI, 3, 4 [ed. Hentschel, 74.2-76.25]. For further discussion and literature with regard to the six different species of numbers, cf. Keller, *Aurelius Augustinus und die Musik* (cit. n. 47 above), 257-262; Hentschel, 'Einleitung' (cit. n. 47 above), p. xix-xxvi.

[61] Perception, according to Augustine's explanation, means the behaviour of the soul towards received stimuli. If these stimuli are mathematically proportionate, they correspond harmonically to its own mathematically ruled numbers, the *numeri occursores*. In this case, the soul perceives with pleasure, otherwise with pain. The ratio underlying the soul's "reaction" are in both cases the rational laws of mathematics, which is why its activity is characterized as "quasi-rational" in the above interpretation. For Augustine's explanation, cf. especially *De musica*, VI, 5, 9 [ed. Hentschel, 88.31-90.77]; cf. ibid., VI, 5, 10, [ibid., 90.58-62]: "(...) has actiones, sive faciles propter convenientiam, sive difficiles propter inconvenientiam, non eam latere, et hoc totum est, quod sentire dicitur". Cf., in this connection, Schmitt, 'Zahl und Schönheit' (cit. n. 52 above), 225 sq., who also emphasizes the active role of the soul in this part of the perception-process.

This interpretation finds additional confirmation in a further characteristic, arising in connection to the *numeri sensuales*. The role of this type of number is, according to Augustine, to judge whether or not a perceived motion is proportionate, i.e. structured according to the mathematical laws described in the first book of *De musica*:

> ... a fifth kind [sc. of numbers, NG]..., a kind which exists in the natural judgement of perception, when we are delighted by the equality of rhythms or offended when a mistake is made in them. For I do not despise your opinion that our sense would not have been able to perform this without having some rhythms hidden in it.[62]

According to this passage, the *numeri sensuales* are a measure which the soul possesses by nature. Sense perception, consequently, means to compare the motion of an extra-mental thing with this measure. Whereas pleasure is the effect of an accord perceived by the soul between the numerological structure of an extra-mental thing and its inborn measure, rejection results from disagreement. The natural judgement, correspondingly, consists precisely in this act of uncovering the relationship between the "external" and respective

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[62] *De musica*, VI, 4, 5 [transl. Jacobsson, 17]; Latin text [ed. Hentschel, 76.3-8]; see also ibid. [ibid., 78.14 sq.]: "(...) vel annuendo vel abhorrendo quasi quodam naturali iure ferre sententiam"; ibid., VI, 7, 18 [ibid., 104.32]: "(...) nec tamen naturale illud iudicium (...)". Augustine alludes to this kind of formulation (and, consequently, concept) already in book I, cf., for example, I, 5, 10 [ibid., 28.18 sq.]: "Natura id fieri puto, quae omnibus dedit sensum audiendi, quo ista iudicantur". Against this background, Augustine's reason for initially referring to these *numeri sensuales* as *numeri iudiciales* (a term which he later reserved strictly for intellectual judgement, in the realm of rational knowledge) becomes clear.—Horn, 'Augustins Philosophie der Zahlen' (cit. n. 46 above), 401, links the *numeri sensuales* with the *sensus interior*, a concept to which Augustine often refers in his philosophical writings, particularly in connection with the "innate" capacity of animals to produce beautifully-ordered things, e.g., nids (birds) or honeycombs (bees), cf. *De ordine*, II, 19, 49 [CCSL 29, 134.6-9]; cf. also Augustine's emphasize that the *iudicium naturale* is "non ratione sed natura" (*De musica*, I, 2, 3; ed. Hentschel, 72.37). Thus he clearly connects these "innate" numbers with the *rationes seminales* of *De diversis quaestionibus lxxxiii*, q. 46 (*De ideis*), and consequently with the rational, divine order of the universe.—An identification of the *numeri sensuales* with the *sensus interior* is moreover suggested by Schmitt, 'Zahl und Schönheit' (cit. n. 52 above), 231, who similarly underlines the "quasi rationale Akte der Seele" in the process of perception, ibid., 227-230, and 233. Cf. also *De libero arbitrio*, II, 3, 8, 25-II, 4, 13, 51 [CCSL 29, 240.38-246.10].

"internal" numbers. As this judgement is based on number, it is also "quasi-rational" although the *numeri sensuales* themselves are still assigned to the act of perception and not to actual intellectual knowledge.

The measure in reference to which men judge "naturally", Augustine usually calls *dimensio* or *mensura*. Again this *dimensio* or *mensura* also necessarily implies rationality, this time on the side of the object of perception.[63] To discern agreement with *mensura* means to uncover the beauty of this object. By 'beauty', however, Augustine understands nothing other than the numerological structure inherent to a thing which obeys the *lex aequalitatis* and is consequently strictly rational, which is to say, mathematical. Thus arises man's natural gift, his *iudicium naturale*, the bridge between sensorily-perceptible things and intellectual knowledge.[64]

These observations render visible a decisive characteristic of Augustine's complex theory, namely his conviction that man, in order to be able to perceive at all, must possess an "innate" or "natural" ability for a "quasi-rational" judgement. This "quasi-rational" judgement forms the indispensable condition of the ability to differentiate proportionate from disproportionate motions, and hence to detect the numerological structure inherent to things.[65] Augustine's model of numerological perception and knowledge thus represents an attempt to provide a theory to explicate his aforementioned conviction that perception, although it relies on the senses, is nevertheless a rationally-founded act.

Let us pursue Augustine's epistemological model a little further still. Since perception contains a moment of judgment already on the level of sensory perception, namely a 'natural judgement' of the proportionedness of motions,[66]

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[63] For example, *De musica*, I, 11, 18 [ed. Hentschel, 46.1-3]: "(...) omnes istos rationabiles motus, id est qui ad sese habent aliquam numerorum dimensionem"; ibid., I, 11, 19 [ibid., 46.27-29]: "(...) illam rationem, quae (...) revocat ad certum modum formamque praescribit (...)".

[64] For the connection between beauty, number and rationality, cf. the quotations and references above, p. 17-19, with n. 52.

[65] According to this, he moreover places the transistion from sensible things to knowledge of their structure on a thoroughly rational basis. For a similar conclusion, cf. Schmitt, 'Zahl und Schönheit' (cit. n. 52 above), 233; Schmitt emphasizes that due to Augustine's concept of *numeri iudiciales* (those numbers which Augustine will later call *numeri sensuales*), there is no absolute gap between the realm of rationality and that of the senses, "da ja der Sinn selbst schon eine rationale Komponente in sich enthält". Though perception still is prerational, it accords to *ratio* (ibid.). To this we may now add that also between the realm of sensory perception and reality there is no absolute gap by virtue of their isomorphy.

[66] This expression will henceforth be used in the sense of 'accordance with the laws of mathematics'. Augustine himself sometimes falls back on the notion of *proportio* in this connection.

numeri iudiciales prove on the level of intellectual knowledge to be functions of the preceding natural judgements. They are judgements about judgements:

> But I for my part believe that when this verse, which we put forth, is sung, *Deus creator omnium*, we [...] enjoy it with these judicial rhythms and evaluate it with some others, and that we pass another, more certain, sentence with those more hidden rhythms on this pleasure, which is, so to speak, the sentence of those judicial rhythms.[67]

According to this, the task of the *numeri iudiciales* is to decide whether or not the natural judgement passed on a thing is adequate or not, which is to say whether the observed proportionedness is *well*-proportioned.[68] Although at this point it still remains unclear what exactly Augustine has in mind, we can establish that he links the perception of things and natural judgement regarding their mathematical structure with yet a further measure, one which (at least metaphysically) precedes natural judgement.

With respect to the subject of knowledge, namely the human soul, Augustine is now able to explain the process of knowledge—from the sensory perception of reality, through the "quasi-rational" agreement or disagreement with the perceived structures inherent to reality, up to a rational judgement regarding this structure and the natural judgement. However to what extent the object of knowledge itself—and thus reality and its allegedly mathematical structure—is ontologically secured, remains to be seen; as does the locus of that measure according to which this structure is judged to be well-proportioned. In this connection, the question must also be dealt with of whether this structure possesses any further signification.

2.3. *The Ontological Foundation of Reality and the Signification of Its Structure*

The clearest reference to that measure which underlies judgements of the second order—the *numeri iudiciales*—occurs in *De musica* VI, 11, 29, where

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[67] Augustine, *De musica*, VI, 9, 23 [transl. Jacobsson, 57]; Latin text [ed. Hentschel, 116.15-21]; see also ibid., VI, 9, 24 [ibid., 118.48—120.54]: "... et aliud est aestimare, utrum recte an secus ista delectent, quod fit ratiocinando".

[68] Obviously, this second order judgement reflects the definition of music presented by Augustine in book I ("Musica est scientia *bene* modulandi", *De musica*, I, 2, 2; ed. Hentschel, 6.10; my emphasis), namely its characterization as "bene"; for an interpretation of the meaning of this "well-proportionedness", cf. the following section. Regarding the epitet *bene*, cf. also Keller, *Aurelius Augustinus und die Musik* (cit. n. 47 above), 253; cf., in contrast, Hentschel, 'Einleitung' (cit. n. 47 above), p. xiii sq. Our interpretation, which will be presented shortly, tends more towards Keller's view.

Augustine characterizes the divine order as the last instance in reference to which the adequacy of proportions may be determined:

> But what is superior except that in which the highest, unshakeable, unchangeable, eternal equality exists, where there is no time, because there is no change, and from which the times are created and set in order and modified in imitation of eternity, while the celestial rotation returns to the same place and recalls the celestial bodies to the same place and through the days and months and years and lustra and the other orbits of the stars obeys the laws of equality and unity and order?[69]

The principle of all things and their structures consequently forms the *summa aequalitas*, which is identifiable with God.[70] This has far-reaching consequences for our topic. First, it may be concluded from this that the existence of things and their structures is ontologically founded in the *summa aequalitas*.[71] Beyond this it becomes evident that the composition of these structures is actually a mathematical one: everything that exists follows the *leges aequalitatis et unitatis*. Hence it can, in principle, be recognized by the likewise mathematically-structured human *ratio* in its proportionality.[72] While the connection between the foregoing model of knowledge and the now ontologically-founded reality can in this way be established, the question regarding the signification of the structures inherent to things remains open.

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[69] Augustine, *De musica*, VI, 11, 29 [transl. Jacobsson, 67]; Latin text [ed. Hentschel, 128.8-15]. For a detailed analysis of the role of *ordo* in *De musica* cf. Keller, *Aurelius Augustinus und die Musik* (cit. n. 47 above), 227-235 and 241-246.

[70] In addition to the quotation in the text, cf., for example, *De musica*, VI, 8, 20 [ed. Hentschel, 108.15 sq.]: "(...) deum, quem certe decet credere auctorem omnis convenientiae atque concordiae", and ibid., VI, 12, 36 [ibid., 140.82-88]: "D. Nihil mihi omnino est de istorum aequalitate securius. M. Unde ergo credendum est animae tribui, quod aeternum est et incommutabile, nisi ab uno aeterno et incommutabili deo? (...) Illud (...) manifestum est eum (...) sese intus ad deum movet, ut verum incommutabile intelligat (...)". Cf. also *De genesi contra Manichaeos*, ed. J.-P. Migne (Paris, 1841), col. 173-220 [= PL 34]; ibid., I, 16, 26 [PL 34, 186.1-3]: "(...). Nec alium invenies, nisi ubi summa mensura, et summus numerus, et summus ordo est, id est Deum (...)".

[71] That the *lex aequalitatis* forms the principle according to which everything was created by God, is confirmed by *De musica*, VI, 17, 56 [ed. Hentschel, 168.11-170.19]: "Quamobrem quisquis (...) debet fateri ab uno principio per aequalem illi ac similem speciem divitiis bonitatis eius (...) omnia facta esse atque condita quaecumque sunt, in quantumcumque sunt".

[72] For an explicit foundation of the numbers with which the soul measures all its other *numeri* and motions, namely the *numeri spirituales*, cf. Augustine, *De musica*, VI, 12, 34-36 [ed. Hentschel, 134.1-140.90]: "Excipit autem memoria non solum carnales motus animi, de quibus supra iam diximus, sed etiam spirituales, de quibus breviter dicam. (...). Aequalitatem [sc. certam et manentem, NG] illam (...) nusquam profecto appeteret animus, nisi alicubi nota esset; (...). Ubi ergo censes? (...) Unde ergo credendum est animae tribui, quod aeternum est et incommutabile, nisi ab uno aeterno et incommutabili deo?".

In this respect, a central role is played by a notion which recurs frequently throughout Augustine's writings and which forms a well-known sub-class of his *signa naturalia*, namely, *vestigia*.[73] In *De musica*, the most important references to this notion are found at the end of book one and at the beginning of book six. In both cases Augustine voices the opinion that "vestiges of numbers", inherent either to our senses or immediately to objects of perception, lead one towards the "interior" or "unchangeable truth".[74] The background of this description forms the program pursued by Augustine in this book: He wishes to proceed from "physical numbers" to "immaterial" ones.[75] If one brings this intention into connection with his conception of reality and model of knowledge, the following conclusions may be drawn. Those mathematical structures which men are able to recognize in all motions—discrete and continuous, spatial and temporal—are precisely the *vestigia* inherent in things. Since these vestiges concern "physical numbers", they signify corresponding "immaterial numbers".

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[73] For the *vestigia* as *signa naturalia*, cf., above all, *De doctrina christiana*, II, 1, 2 [CCSL 32, 32.12-33.18]: "Signorum igitur alia sunt naturalia, alia data. Naturalia sunt, quae sine uoluntate atque ullo appetitu significandi praeter se aliquid aliud ex se cognosci faciunt, sicuti est fumus significans ignem. (...). Sed et uestigium transeuntis animantis ad hoc genus pertinet (...)". For the impact of this distinction cf., for example, Roger Bacon, *De signis*, e.g. I, 3, ed. K.M. Fredeborg (New York, 1978), 82: "Signorum autem quaedam sunt naturalia, quaedam ordinata ab anima ad significandum. Naturalia autem dicuntur, quia ex essentia sua et non ex intentione animae signi rationem recipiunt".

[74] Cf. *De musica*, I, 8, 28 [ed. Hentschel, 64.34-39]: "Quamobrem cum (...) musica (...) vestigia quaedam posuerit, nonne oportet eadem vestigia prius persequi, ut commodius ad ipsa (...) penetralia (...) ducamur?"; ibid., VI, 1, 1 [ibid., 66.1-11]: "Satis diu (...) in vestigiis numerorum (...) morati sumus. (...) putavimus (...) quibusdam gradibus a sensibus carnis (...) duce ratione (...) incommutabilis veritatis amore adhaerescerent [sc. homines, NG]". In addition, cf. *De ordine*, II, 15, 43 [CCSL 29, 130.17-21]; furthermore, *De libero arbitrio*, II, 16, 42, 163 [CCSL 29, 265.15-17].

[75] For this purpose, cf. *De musica*, VI, 2, 2 [ed. Hentschel, 68.1 sq.]: "Quamobrem (...), ut a corporeis ad incorporea transeamus (...)"; with direct reference to numbers, ibid., VI, 12, 34 [ibid., 134.4-9]: "Aequalitatem illam, quam in sensibilibus numeris non reperiebamus certam et manentem, sed tamen adumbratam et praetereuntem agnoscebamus, nusquam profecto appeteret animus, nisi alicubi nota esset; hoc autem alicubi non in spatiis locorum et temporum, nam illa tument, et ista praetereunt"; for additional evidence see ibid., VI, 12, 35 [ibid., 136.27 sq.]; ibid., VI, 12, 36 [ibid., 140.75-79].

What does this mean for the seeker of knowledge? He makes, as just described, with the help of his *numeri sensuales*, the "quasi-rational" judgement that the things which he perceives are proportionate. He then continues, by means of the *numeri iudiciales*, with the actual, rational judgement which leads him to the recognition that they are well-proportioned, which is to say that one and the same law is the basis of all proportions: the *lex aequalitatis*. Insight into the *lex aequalitatis* necessarily implies, however, that he have knowledge of its fundamental principle, the *summa aequalitas* or *unitas*.[76] The vestiges inherent in things therefore reveal the determining principle of their mathematical structure, which is at once the ontological foundation of reality.[77]

At this point the question arises of the relationship between the ontic and the semantic dimensions of a thing. The vestiges of numbers articulate themselves, according to Augustine, on the level of the ontic composition of things: they form the "physical" or sensible numbers, in short, the beauty and hence the mathematical structure of things. Their signification refers accordingly through their corresponding "immaterial" numbers—the realm of the *lex aequalitatis*—to the principle on which they are based, that is the *summa aequalitas* itself. Thus the composition of a thing—i.e. its essential mathematical structure—performs a task analogous to the semantic function of a sign. In view of the Augustinian conception of signs, it could be here objected that the same epistemological problem now arises on the "semantic level" of the things which we know already from Augustine's reflections on language; for although linguistic signs according to him may be capable of providing knowledge, they are yet subject to the problem of ambiguity. In short, the certainty of the knowledge they provide is questionable.[78]

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[76] For the relevant quotation in this connection, cf. above, p. 25 with n. 69. For a short survey of the path "von der Erkenntnis körperlicher Rhythmen zur ewigen Gleichheit", cf. Hentschel, 'Einleitung' (cit. n. 47 above), p. xix-xxvi, who, however, leaves the ontological aspect out of consideration.

[77] In this connection, cf. the precisely inverse process of coming into being through cosmological numbers as described in *De musica*, VI, 17, 58 [ed. Hentschel, 172.67-174.79]: "Ista certe omnia, quae carnalis sensus ministerio numeramus (...), locales numeros, (...) nisi praecedentibus intimis et in silentio temporalibus numeris, qui sunt in motu, nec accipere illos possunt nec habere. Illos itidem temporum intervallis agiles praecedit et modificat vitalis motus serviens domino rerum omnium, non temporalia habens digesta intervalla numerorum suorum, sed tempora ministrante potentia, supra quam rationales et intellectuales numeri beatarum animarum atque sanctarum, legem ipsam dei (...) usque ad terrena et inferna iura transmittunt". The process of knowledge thus proves to be the noetic *reditus* of this cosmological emanation.

[78] For further details in this regard, cf. part I of this study.

An answer to this objection is provided by the central characteristic of 'natural signs': in contrast to the realm of *signa data*, there is a determinate relation between the 'natural sign' and its *significatum*.[79] Regarding the signs in question here, which are all natural things, their *significatum* is precisely their *essentia*, or essential constitution, and—insofar as their carrier, the natural sign, exists—is *eo ipso* ontologically founded.[80] Due to this peculiarity, the ontological truth of the thing and the semantic truth of the "sign-thing" coincide. However, it should be kept in mind that the connections described here apply exclusively to natural things, that is to the reality created by God.[81] Artificially-produced things such as song or dance in the field of the *ars musica*, fall, according to this conception, necessarily into the category of *signa data*, in which the semiotic-semantic side is not *per se* or 'naturally' linked to the ontic-ontological. Finally, if one regards the sign-relationship between the natural "sign-things" and the principle to which they refer, namely the *summa aequalitas* or *unitas*, this relation proves to be twofold: in one direction, leading ontologically away from unity and towards those things brought forth out of it through the *lex aequalitatis*; in the other direction, pointing semantically-epistemically away from things, via the *vis numerorum* which ordered them, towards the unity which is their foundational principle and that which makes possible certain knowledge of the truth. In conclusion to this part of the present study, a few special points resulting from our examination shall now be highlighted.

2.4. *Interim Results*

(1) On the function of number in the relation of things and truth. As has been shown on the basis of *De musica*, number corresponds to the structure of created reality. It is both the formative power in bringing forth reality, and

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[79] For a comparative analysis of *signa data* and *signa naturalia*, cf. Meier-Oeser, *Die Spur des Zeichens* (cit. n. 28 above), 23-26; against Meier-Oeser who holds, ibid., 26, "daß die als natürliches Zeichen fungierende Sache nicht bereits aufgrund ihrer eigenen Natur Zeichen ist", one could object that it is—at least regarding the 'things' under consideration here—precisely their very 'nature' that functions as sign.

[80] For the ontological foundation, cf. p. 25 with n. 69 above.—Cf., in contrast, the relation between *signa data* and the signified thing which is arbitrary or contingent, see above, p. 12 with n. 36. Furthermore, contrary to other kinds of *signa naturalia* such as the vestige of an animal whose occurrence is contingent (upon the respective animal having passed by), both the occurrence and signification of the vestiges in question here is necessary.

[81] Cf. our analysis of the respective passages in *De musica* and *De ordine* above, p. 19.

the *ratio* which leads human reason, by means of its corresponding structure, to certain knowledge of the truth. In his unparalleled use of Pythagorean and Platonic number-theory, Augustine thus formulates what is, seen as a whole, a detailed "mathematical" theory of the isomorphism of knowledge and reality.[82]

(2) On the status of things. In this connection it should be stressed that Augustine, despite his general depreciation of the physical, sensible world, leaves no doubt that things are the starting point in the knowledge-process.[83] Admittedly, they are only a means towards our actual epistemic goal, the truth. Nevertheless they are the carriers of *vestigia* and are as such fit for use,[84] and therefore recommended to all who strive for joy in the presence of eternal truth.[85]

(3) On the meaning of 'significare' in reference to things. If the interpretation presented here is correct, all created or "natural" things possess signification. They are "natural signs", whose immanent mathematical structure or beauty is a vestige of their foundational principle. The driving force of this "trace" is the *lex aequalitatis*, which is inseparably connected to the "One" by virtue of the conception of number which grounds it. Consequently the *significatum* of all natural things is not only undoubtedly certain, but also one and the same, that is, the one, ontological Truth.

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[82] For an evaluation of Augustine's use of Pythagorean number theory, cf. the closely-related assessment of Hentschel, 'Einleitung' (cit. n. 47 above), p. ix: "Die Bedeutung der Zahl und zahlhafter Strukturen für den Pythagoreismus ist bekannt, aber in keinem anderen Werk wird der Weg von zahlhaften Strukturen des sinnlich Wahrnehmbaren bis hin zur Erkenntnis des Göttlichen so folgerichtig und bis zum Ziel beschritten wie in *De musica*".

[83] Keller arrives at a similar result, *Aurelius Augustinus und die Musik* (cit. n. 47 above), 279: "Erkenntnis meint [...] eine im Zusammenhang von Sinnesempfindung in Gang gebrachte Besinnung der denkenden Seele [...]". With respect to this peculiarity, we must emphasize that Augustine, in *De musica*, does not fall back on the skepticism of *Contra academicos*, but rather continues the tendency present in *De dialectica*; for this, cf. section 1.2. of this paper.

[84] Augustine himself speaks here of *uti*—the well-known complement of his *frui*, cf. *De musica*, VI, 14, 45 [ed. Hentschel, 154.40-50]: "Sed qualis tibi homo videtur, qui omnes illos numeros, qui sunt de corpore (...) ad salutem tantum corporis refert, omnesque (...) non ad superfluam vel perniciosam curiositatem, sed ad necessariam probationem vel improbationem utitur (...)?"; ibid., VI, 14, 46 [ibid., 156.73-75]: "His etenim, quoniam temporales sunt, tamquam tabula in fluctibus, (...) bene utendo carebimus".

[85] Cf., for example, *De musica*, VI, 15, 49 [ed. Hentschel, 160.12-15]: "(...) quanto ergo tunc magis in unum deum et perspicuam intenti veritatem, ut dictum est, 'facie ad faciem' numero, quibus agimus corpora, nulla inquietudine sentiemus et gaudebimus?".

(4) On the question of whether things can be semantically wrong. Insofar as speech is about created or "natural" things—and only these are things in the quadrivial sense of the word—, they cannot signify inaccurately, provided one does not assume a *genius malignus*, who intentionally deceives men, which Augustine certainly did not. However this characteristic of things has as a consequence, not only that their meaning will always be true, but also that they necessarily "are, what they are, insofar as they are": "quaecumque sunt, in quantumcumque sunt".[86]

3. Conclusion

Let us return to our starting point, namely, the question of Augustine's conception of truth and of the key role played by his notion of signification. The close connection he establishes between language, perception and reality, is reflected in the results of the two parts of our inquiry. Accordingly, in what follows we will recall our main results in order to emphasize their correspondence and complementarity.

As we hope to have shown in the first, so called, "linguistic-semantic" part of our study, Augustine defends different positions in the *Contra academicos* and *De dialectica*. The critique of skepticism in *Contra academicos* restricts knowledge of truth to things imperceptible to sense, namely to the sphere of pure subjective and logico-mathematical truths. Thus the entire realm of linguistic signs appears incapable of transmitting true knowledge. In *De dialectica* however, Augustine shifts from this rather negative position to a positive one: both his definition of sign as a link bridging the gap between the sensible and intelligible, and his epistemic conception of signification open a new avenue for cognition of the truth via linguistic expressions. Although linguistic expressions are able to function as transmitters of true knowledge, the actualization of this possibility requires the fulfillment of yet a further condition, namely, that those things to which they are conventionally referring are ontologically true.

De musica provides a solution both to this problem and to the seeming dead-end of mathematical truths as discussed on the basis of *Contra academicos*. It is in this treatise on music that Augustine develops an elaborate cosmological model which grounds reality and its constitutive structure ontologically in one ultimate principle, namely, God. As precisely the same structure characterizes the process of human perception and knowledge, this model ensures the cognizability of reality, or more precisely still: of its structure. However, due to Augustine's peculiar notion of *res*, our investigation in the "ontological" part of the study went yet a little further, bringing an additional aspect to the fore: As some *res*, namely 'natural' things, according to him, are also signs, we raised the question of what *their* signification was. It turned out that those "sign-things" signify, by virtue of their inherent numero-logical structure, the one Truth, which is at the same time the founding principle of reality. Moreover, and in contrast to the semantic level of linguistic expressions, the signification of "sign-things" is essentially inherent to those *res*. Consequently it unambiguously refers to its *significatum*, leaving no room for deception and thus for skepticism.

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[86] *De musica*, VI, 17, 56 [ed. Hentschel, 170.18 sq.], as quoted above, p. 25, n. 71.

With respect to the relation of signification and truth, these results have several consequences: as the study of Augustine's early philosophical writings has shown, only the combination of the semantic with the ontological view promises an adequate understanding of his notion of truth: the very existence of human science is submitted to the three conditions of there being (1) an intelligible structure of objective reality (the truth of things), and (2) the possibility of cognizing and (3) communicating that intelligible structure with satisfactory accuracy (the truth of signs). What we have here is a symmetrical model, within which epistemology is described in terms of linguistic and metaphysical components: the model involves a linguistic-semantic side and an ontological one, the accuracy of human knowledge being founded on the isomorphism existing between words as signs of things, and things as signs of their ontological truth.

Moreover, Augustine's philosophical conception of truth involves a theory of intentional objects of a peculiar kind: generally speaking, mental acts of perceiving and understanding can be directed towards extra-mental things. When this is the case, the contents of those mental acts are intentional objects. The peculiarity of the intentional objects involved in Augustine's epistemology, however (see for example the *dicibile* in *De dialectica* and the *numeri iudiciales* in *De musica*), is the fact that they can *eo ipso* qualify as true in virtue of the ontological truth of the things towards which they are directed. In that sense, those intentional objects can be described as "alethic". Consequently, the ontological truth of things is the condition of there being a linguistic-semantic truth.[87] At the core of these both realms of truth is the notion of signification which, in both fields, connects sensory perceivable items (*verba, res*) with intelligible contents that are either conventionally or naturally linked with these items.

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[87] For the role played by Augustine in medieval and modern theories of intentionality, see D. Perler, *Theorien der Intentionalität im Mittelalter* (Frankfurt a.M., 2002), 403-405, where the

Finally and as we have seen, Augustine focuses on things primarily due to their 'usefulness' in leading the seeker of truth from the sensory world to its foundational, intelligible truth (*res* as *signa*). However, although Augustine's own interest is directed towards the cognition of intelligible objects, his model of perception and knowledge necessarily presupposes sense perception as the starting point of the process of cognition. For the seeker of knowledge, in order at all to detect the structure inherent to things, must in a first stage focus on extra-mental reality. Hence, besides the semantic dimension of this position (the very structure of worldly things is a *vestigium*), Augustine's concentration on the metaphysical structure of things may have influenced his successors in their reflections on the constitution of things as things and in an increasing interest in the nature as a physical entity.[88]

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author shows how Franz Brentano refers to Aristotle, Thomas Aquinas and Augustine as previous thinkers who defended the "mental in-existence" of objects; for the role of the notion of *intentio* in Augustine's theory of ocular vision and mental language, see M. Sirridge, '"Quam videndo intus dicimus": Seeing and Saying in De Trinitate XV', *Medieval Analyses in Language and Cognition*, ed. S. Ebbesen, and R. Friedman (Copenhagen, 1999), 317-330 and L. Cesalli, 'Intentionality and Truth-Making: Augustine's Influence on Burley and Wyclif's Propositional Semantics', *Vivarium*, Vol. 45, No. 2. (2007), 283-297.

[88] Cf. for example the so-called "discovery of nature" in the 12th century. This concept has been coined by M.-D. Chenu, *La théologie au douzième siècle* (Paris, 1957), esp. 21-30. Recently, it has provoked a renewed scientific interest, cf. A. Speer, *Die entdeckte Natur. Untersuchungen zu Begründungsversuchen einer* scientia naturalis *im 12. Jahrhundert* (Leiden, 1995). Meanwhile, the question has been raised whether the scientific interest in the things as things can be traced back to earlier periods in the history of philosophy, cf. N. Germann, De temporum ratione. *Quadrivium und Gotteserkenntnis am Beispiel Abbos von Fleury und Hermanns von Reichenau* (Leiden–Boston, 2006), esp. 304-309; C. Burnett, 'Physics before Physics. Early Translations from Arabic of Texts Concerning Nature in Mss. British Library additional 22719 and Cotton Galba E IV', *Medioevo* 27 (2002), 53-109.

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Über das Verhältnis allgemeiner und individueller materieller und mathematischer Gegenstände nach Thomas von Aquin

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Abstract
This article examines one aspect of Thomas Aquinas' understanding of abstraction. It shows in which way, according to Aquinas, universal material objects and individual material objects are the starting point for mathematical objects. It comes to the conclusion that for Aquinas there are not only universal mathematical objects (circle, line), but also individual mathematical objects (this circle, that line). Universal mathematical objects are properties of universal material objects and individual mathematical objects are properties of individual material objects. One type of *abstractio formae* leads from individual material objects to universal mathematical objects, a second type from universal material objects to universal mathematical objects, and a third type from individual material objects to individual mathematical objects. Therefore, the concept of *abstractio formae* is ambiguous.

Keywords
individual material objects, universal material objects, individual mathematical objects, universal mathematical objects, *abstractio formae*

In seiner Schrift *Super Boetium De Trinitate*[1] teilt Thomas von Aquin die theoretische Philosophie in Naturphilosophie, Mathematik und Metaphysik ein.

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[1] Diese Schrift wird im folgenden mit "In De Trin." abgekürzt und nach Sancti Thomae de Aquino, *Super Boetium De Trinitate*, in *Opera Omnia*, Editio Leonina, tomus L (Roma-Paris, 1992) zitiert, wobei in Klammern jeweils die Seitenzahl dieser Ausgabe angegeben wird. Eine ältere kritische Ausgabe ist Sancti Thomae de Aquino, *Expositio super librum Boethii De Trinitate*, ed. Bruno Decker (Leiden, 1955). Zur Frage der Datierung, der Motivation und der Struktur dieser Schrift vgl. Douglas C. Hall, *The Trinity. An Analysis of St. Thomas Aquinas' Expositio of the*

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Die Gegenstände dieser Wissenschaften sollen jeweils durch drei Tätigkeiten des Verstandes erfaßt werden, durch die *abstractio universalis a particulari*, die *abstractio formae* und die *separatio*. Die thomasische Einteilung der theoretischen Philosophie und die damit verbundene Abstraktionslehre ist ein oft behandeltes Thema.[2] Der vorliegende Aufsatz soll einen besonderen Aspekt dieser Lehre untersuchen, der von der bisherigen Literatur zu Thomas nicht diskutiert wurde. Er will verdeutlichen, inwiefern die Unterscheidung von allgemeinen und individuellen *materiellen* Gegenständen, die für die Naturphilosophie relevant ist, zu einer Unterscheidung von allgemeinen und individuellen *mathematischen* Gegenständen führen kann. Diese Frage wurde bisher auch nicht von den Arbeiten, die speziell die mathematische Abstraktion des Thomas behandeln, erörtert.[3]

Der Aufsatz besteht aus drei Teilen. Im ersten erfolgen einige wenige terminologische Vorbemerkungen, ohne die die späteren Ausführungen nicht verstanden werden können. Im zweiten Teil wird die für die Naturphilosophie

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De Trinitate of Boethius (Leiden-New York-Köln, 1992), 38-47. Andere Schriften des Thomas von Aquin werden wie folgt zitiert: Sth = *Summa theologiae*, in *Opera Omnia*, Editio Leonina, tomus IV-XII (Roma, 1888ff.), De ente et ess. = *De ente et essentia*, in *Opera Omnia*, Editio Leonina, tomus XLIII (Roma, 1976).

[2] Vgl. etwa L.-B. Geiger, 'Abstraction et séparation d'après S. Thomas', *Revue des sciences philosophiques et théologiques* 31 (1947), 3-40 (dazu kritisch: J. A. Aertsen, 'Was heißt Metaphysik bei Thomas von Aquin?', *Miscellanea Mediaevalia* 22/1 (1994), 217-239), Armand Maurer, *St. Thomas Aquinas. The Division and Methods of the Sciences. Questions V and VI of his Commentary on the De Trinitate of Boethius* (Toronto, 1963), XVIII-XXX, L. Oeing-Hanhoff, 'Wesen und Formen der Abstraktion nach Thomas von Aquin', *Philosophisches Jahrbuch* 71 (1963), 14-37, Siegfried Neumann, *Gegenstand und Methode der theoretischen Wissenschaften nach Thomas von Aquin aufgrund der Expositio super librum Boethii De Trinitate* (Münster, 1965), v. a. 97-119, John F. Wippel, *Metaphysical Themes in Thomas Aquinas* (Washington, D. C., 1984), 69-104, F. Van Steenberghen, 'La structure de la philosophie théorique selon S. Thomas d'Aquin', *Revue philosophique de Louvain* 83 (1985), 536-558, C. Lafleur, 'Abstraction, séparation et tripartition de la philosophie théorétique. Quelques éléments de l'arrière-fond farabien et artien de Thomas d'Aquin, Super Boetium De trinitate, question 5, article 3', *Recherches de Théologie et Philosophie médiévales* 67 (2000), 248-271, Walter Patt, *Metaphysik bei Thomas von Aquin. Eine Einführung* (London, 2004), 19-47.

[3] Vgl. J. F. Whittaker, 'The Position of Mathematics in the Hierarchy of Speculative Science', *The Thomist* 3 (1941), 467-506, E. Winance, 'Note sur l'abstraction mathématique selon saint Thomas', *Revue philosophique de Louvain* 53 (1955), 482-510, T. C. Anderson, 'Intelligibel Matter and the Objects of Mathematics in Aquinas', *The New Scholasticism* 43 (1969), 555-576, ders., 'Aristotle and Aquinas on the Freedom of the Mathematician', *The Thomist* 36 (1972), 231-255, A. Maurer, 'Thomists and Thomas Aquinas on the Foundation of Mathematics', *Review of Metaphysics* 47 (1993), 43-61.

relevante Unterscheidung zwischen allgemeinen und individuellen materiellen Gegenständen expliziert. Im dritten Teil wird untersucht, warum zu den mathematischen Gegenständen nach Thomas sowohl allgemeine als auch individuelle Gegenstände gehören müssen und in welcher Weise die im zweiten Teil des Aufsatzes dargelegte Unterscheidung von allgemeinen und individuellen *materiellen* Gegenständen für die Unterscheidung von allgemeinen und individuellen *mathematischen* Gegenständen wichtig ist. In diesem Zusammenhang wird sich unter anderem herausstellen, daß der Begriff der *abstractio formae* mehrdeutig ist.

I. Terminologische Vorbemerkungen[4]

Thomas unterscheidet theoretische und praktische Philosophie. Die theoretische Philosophie soll sich anders als die praktische Philosophie Dingen zuwenden, die nicht durch die Tätigkeit des Menschen entstehen, sie soll sich also beispielsweise weder für die menschlichen Handlungen noch für die durch die künstlerischen Tätigkeiten hervorgebrachten Werke interessieren. Innerhalb der Gruppe der Dinge, die von der theoretischen Philosophie betrachtet werden, also innerhalb der Gruppe der Dinge, die nicht durch die Tätigkeit des Menschen entstehen, werden drei Gruppen unterschieden, die der Einteilung der theoretischen Philosophie in Naturphilosophie, Mathematik und Metaphysik entsprechen sollen. Die Glieder dieser Gruppen hängen jeweils verschieden stark von der Materie ab. Thomas nennt zwar auch eine Abhängigkeit von der Bewegung, er berücksichtigt diese Abhängigkeit bei der eigentlichen Einteilung der theoretischen Philosophie jedoch nicht, so daß sie hier vernachlässigt werden kann. Die Glieder der ersten Gruppe sollen von der Materie gemäß dem Sein und gemäß dem Begriff (*secundum esse et intellectum*) abhängen, die Glieder der zweiten Gruppe gemäß dem Sein, nicht aber gemäß dem Begriff, und die Glieder der dritten Gruppe weder gemäß dem Sein noch gemäß dem Begriff. Hierbei soll ein beliebiges x genau dann dem Begriff nach von der Materie abhängen, wenn in der Definition von x ausgesagt wird, daß x materiell ist, und genau dann *nicht* dem Begriff nach von der Materie abhängen, wenn *nicht* in der Definition von x ausgesagt wird, daß x materiell ist, wobei letzteres nicht ohne weiteres impliziert, daß in der Definition von x ausgesagt wird, daß x nicht materiell ist. So folgt daraus, daß etwa in der Definition des Menschen nicht ausgesagt wird, daß der Mensch kahlköpfig ist, nicht, daß in dieser Definition ausgesagt wird, daß er nicht kahlköpfig ist. In Definitionen sollen gerade *wesentliche* Eigenschaften ausgesagt werden. Wenn also die Definition des Menschen nicht aussagt, daß der Mensch kahlköpfig ist, so ist damit gemeint, daß er nicht *wesentlich* kahlköpfig ist. Der Mensch könnte aber immer noch *zufällig* kahlköpfig sein. Entsprechend gilt dann: Wenn die Definition von x nicht aussagt, daß x materiell ist, so ist damit gemeint, daß x nicht wesentlich materiell ist. x könnte jedoch immer noch zufällig materiell sein. Ferner scheint es angemessen, die Abhängigkeit von der Materie gemäß dem Sein (*secundum esse*) so zu interpretieren, daß etwas genau dann gemäß dem Sein von der Materie abhängt, wenn daraus, daß es existiert, folgt, daß auch Materie existiert. Gegen diese Interpretation könnte sich ein Einwand erheben: Wäre es nicht möglich, daß es etwas gibt, das nicht ohne Materie sein kann, ohne daß dieses etwas von der Materie abhängt, etwa wenn ein bestimmter nichtmaterieller Gegenstand—a—notwendigerweise einen materiellen Gegenstand—b—verursacht, so daß a tatsächlich nur dann existiert, wenn b existiert? Wäre a dann aber von b *abhängig*? Diese Frage läßt sich bejahen: Wenn a notwendigerweise b verursacht, dann ist a von b abhängig, da a dann nicht ohne b sein kann. Ferner ist dem Autor keine Äußerung des Thomas bekannt, in der ein Beispiel angegeben wird, das dem genannten Einwand entspricht. Somit lassen sich folgende Definitionen auseinanderhalten:

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[4] Vgl. zum Folgenden In De Trin. q. 5 a. 1 corp. art. (137f.).

Definition 1: x ist genau dann Glied der Gruppe 1, wenn gilt:
(1) Wenn x existiert, dann existiert auch Materie.
(2) Die Definition von x sagt aus, daß x materiell ist.

Definition 2: x ist genau dann Glied der Gruppe 2, wenn gilt:
(1) Wenn x existiert, dann existiert auch Materie.
(2) Die Definition von x sagt nicht aus, daß x materiell ist.

Definition 3: x ist genau dann Glied der Gruppe 3, wenn gilt:
(1) Es ist nicht so, daß dann, wenn x existiert, Materie existiert.
(2) Die Definition von x sagt nicht aus, daß x materiell ist.

Unter der Voraussetzung, daß man es mit Dingen zu tun hat, die nicht durch die Tätigkeit des Menschen entstehen, soll sich mit den Dingen der ersten Gruppe gerade die Naturphilosophie, die auch Physik genannt wird, mit den Dingen der zweiten Gruppe die Mathematik und mit den Dingen der letzten Gruppe die Metaphysik befassen. Der Naturphilosophie ist die *abstractio uni-*

versalis a particulari, der Mathematik die *abstractio formae* und der Metaphysik die *separatio* zugeordnet. Der Terminus "*abstractio*" selbst wurde von Boethius als Übersetzung des griechischen Wortes "aphairesis" in die lateinische philosophische Sprache eingeführt, wobei "aphairesis" erstmals von Aristoteles in einem technischen Sinn gebraucht wurde.[5] Inwiefern nun die genannte, sich in der Tradition des Aristoteles befindende Einteilung der theoretischen Philosophie in Naturphilosophie, Mathematik und Metaphysik heute noch befriedigen kann, sei einmal dahingestellt.[6] Thomas selbst knüpft mit seiner Abstraktionstheorie an Aristoteles an, wobei er die Probleme, die er unter dem Titel der Abstraktion behandelt, zunächst von Averroes übernimmt.[7]

II. Allgemeine und individuelle materielle Gegenstände

Nach Definition 1 ist x also genau dann Gegenstand der Naturphilosophie, wenn gilt, daß wenn x existiert, auch Materie existiert, und wenn die Definition von x aussagt, daß x materiell ist. Ein solcher Gegenstand soll beispielsweise der Mensch sein. Zunächst einmal folgt aus seiner Existenz die Existenz von Materie, denn ohne Materie gäbe es keine Menschen. Ferner sagt die Definition des Menschen aus, daß der Mensch materiell ist, denn sie sagt aus, daß er ein Sinnenwesen ist, Sinnenwesen aber sind materiell. Die Naturphilosophie ist, wie jedes Einteilungsglied der theoretischen Philosophie, eine Wissenschaft, *scientia*. Wissenschaften sollen allgemeine Aussagen formulieren und das können sie nur dann tun, wenn sie sich mit *allgemeinen* Dingen befassen.[8] Demnach ist nicht der *individuelle* Mensch, der Mensch A oder der Mensch B, Gegenstand der Naturphilosophie, sondern der *allgemeine* Mensch, der in A und B gewissermaßen enthalten ist, so daß man Definition 1 modifizieren muß:

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[5] Vgl. P. Aubenque, 'Abstraktion I', in *Historisches Wörterbuch der Philosophie*, ed. Joachim Ritter, Bd. 1 / A-C (Basel-Stuttgart, 1971), 42-44, u. Josef de Vries, *Grundbegriffe der Scholastik* (Darmstadt, 1983), 1. Zur Geschichte des Abstraktionsproblems im Mittelalter vgl. L. Oeing-Hanhoff, 'Abstraktion III', in *Historisches Wörterbuch der Philosophie*, ed. Joachim Ritter, Bd. 1 / A-C (Basel-Stuttgart, 1971), 47-59. Neben der Abstraktionslehre des Thomas stellt vor allem die des Albertus Magnus mit der Unterscheidung von vier Abstraktionsgraden einen Höhepunkt dieser Problemgeschichte dar. Vgl. Ulrich Dähnert, *Die Erkenntnislehre des Albertus Magnus gemessen an den Stufen der 'abstractio'* (Leipzig, 1934), R. Z. Lauer, 'St. Albert and the Theory of Abstraction', *The Thomist* 17 (1954), 69-83.

[6] Van Steenberghen, 'La structure de la philosophie théorique', beispielsweise hat diesbezüglich erhebliche Zweifel.

[7] Vgl. Oeing-Hanhoff, 'Abstraktion III', 51.

[8] Vgl. In De Trin. q. 5 a. 2 ad 4 (144).

Definition 1': x ist genau dann Gegenstand der Naturphilosophie, wenn gilt:
(1) Wenn x existiert, dann existiert auch Materie.
(2) Die Definition von x sagt aus, daß x materiell ist.
(3) x ist ein allgemeiner Gegenstand.

Aus (2) *folgt*, daß x materiell ist, wenngleich (2), wie gesagt, nicht damit *identisch* ist, daß x materiell ist. Jedenfalls ist jeder Gegenstand der Naturphilosophie materiell. Inwiefern aber können materielle Gegenstände allgemein sein? Thomas hält zweierlei Materien auseinander, *materia particularis* und *materia universalis*, jene nennt er auch *materia signata*, diese auch *materia communis.*[9] Aus Gründen der Einheitlichkeit seien im folgenden die Termini "individuelle Materie" für *materia particularis* und "allgemeine Materie" für *materia universalis* verwendet. Die *materia signata* ist das Individuationsprinzip der materiellen Gegenstände,[10] so daß sich etwa der Mensch A und der Mensch B, die ja materielle Gegenstände sind, aufgrund ihrer verschiedenen individuellen Materie unterscheiden. Die individuelle Materie des Menschen A ist dessen ganz bestimmte Materie, etwa die Knochen von A. Entsprechendes gilt für B. Zwar unterscheiden sich die beiden individuellen Materien voneinander, nur sollen die individuelle Materie von A, die individuelle Materie von B und die jeweiligen individuellen Materien der anderen Menschen etwas gemeinsam haben, eine bestimmte allgemeine Materie, die sich allerdings etwa von der allgemeinen Materie der Steine oder der Pferde unterscheiden soll. Der individuelle Mensch ist materiell gemäß der individuellen Materie, er hat beispielsweise bestimmte Knochen. Der allgemeine Mensch ist materiell gemäß der allgemeinen Materie, er hat keine bestimmten, sondern allgemeine Knochen. Wendet sich die Naturphilosophie einem individuellen Menschen zu, so will sie etwas von dessen allgemeiner Materie, aber auch etwas von dessen allgemeiner Form wissen. Im Fall des Menschen soll die Zusammensetzung aus Materie und Form gerade die Zusammensetzung aus Leib und Seele sein. So wie der individuelle Mensch zusammengesetzt ist aus individueller Materie und individueller Form bzw. individuellem Leib und individueller Seele, so ist der allgemeine Mensch zusammengesetzt aus allgemeiner Materie und allgemeiner Form bzw. allgemeinem Leib und allgemeiner Seele. Die Naturphilosophie interessiert sich nach Thomas nur für die allgemeine Materie (beim Menschen: für den allgemeinen Leib) und für die allgemeine Form (beim

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[9] Vgl. In De Trin. q. 5 a. 2 corp. art. (143), ad 2 (143f.), Sth I q. 85 a. 1 ad 2.
[10] Vgl. In De Trin. q. 5 a. 2 ad 1 (143).

Menschen: für die allgemeine Seele) eines individuellen materiellen Gegenstandes. Sie soll, indem sie von den individuellen Bestimmungen absieht, das Allgemeine aus dem Individuellen gleichsam herausziehen. Dieses "Herausziehen" nennt Thomas *abstractio universalis a particulari.*[11] Die *abstractio universalis a particulari* ist der wichtigste Fall der *abstractio totius*, bei der es um das Verhältnis von Ganzes und Teil geht. Bei der *abstractio totius* wird das Ganze ohne die Teile oder ein Teil (oder mehrere Teile) ohne das Ganze betrachtet. Zu dieser *abstractio* gehört die *abstractio universalis a particulari* insofern, als man bei ihr das Allgemeine als das logische Ganze (*totum*) auffassen kann, das aus den Besonderen, aus den Teilen, "herausgezogen" wird.[12] Das Ergebnis dieses "Herausziehens" ist ein Gegenstand, der sowohl *allgemein* als auch *materiell* ist, und zwar ist er materiell gemäß der *allgemeinen* Materie, nicht gemäß der *individuellen* Materie. Die Naturphilosophie sieht von der individuellen Materie ab.[13] Damit sieht sie auch von der individuellen Form ab, denn diese ergibt sich gewissermaßen aus der individuellen Materie, da letztere, und nicht die individuelle Form, das Individuationsprinzip der materiellen Gegenstände ist.

Die Grenzen der Allgemeinheit der allgemeinen materiellen Gegenstände sollen durch ihre Definitionen bestimmt werden. Wenn beispielsweise der allgemeine Mensch eine *allgemeine* Materie und eine *allgemeine* Form hat, so hat er doch *keine beliebige* Materie und *keine beliebige* Form, da er sich etwa von dem allgemeinen Stein oder dem allgemeinen Pferd unterscheidet. Die Allgemeinheit des allgemeinen Menschen ist durch den Begriff bzw. die Definition des Menschen eingeschränkt. Der Mensch ist ein *vernunftbegabtes Sinnenwesen.* Zwar muß man die Definitionsbestandteile "vernunftbegabt" und "Sinnenwesen" von den Teilen "Leib" und "Seele" unterscheiden, da etwa "Sinnenwesen" die Gattung angibt und "vernunftbegabt" den Artunterschied, aber weder "Leib" noch "Seele" die Gattung oder den Artunterschied angeben; so ist der Mensch zwar ein Sinnenwesen und er ist vernunftbegabt, er ist jedoch kein Leib und er ist auch keine Seele.[14] Dennoch soll die Definition des Menschen die Grenzen der Allgemeinheit der menschlichen Materie und Form angeben.

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11) Vgl. In De Trin. q. 5 a. 2 corp. art. (143), a. 3 corp. art. (149). Eine geschichtsphilosophische Untersuchung zu In De Trin. q. 5. a. 3. findet sich in Lafleur, 'Abstraction, séparation et tripartition'.

12) Vgl. In De Trin. q. 5 a. 3 corp. art. (149). Vgl. auch Patt, *Metaphysik bei Thomas von Aquin*, 28.

13) Vgl. In De Trin. q. 5 a. 2 ad 2 (144): "*unde intellectus communiter abstrait* [sic] *a materia signata..., non autem a materia communi in scientia naturali.*"

14) Vgl. De ente et ess. c. II (372).

Die allgemeinen materiellen Gegenstände, die durch die ***abstractio universalis a particulari*** erkannt werden, sollen keine Gegenstände ***neben*** den individuellen materiellen Gegenständen, sondern ***in*** ihnen gleichsam enthalten sein. Üblicherweise wird diese universalientheoretische Position als gemäßigter Realismus bezeichnet. Die thomasischen allgemeinen materiellen Gegenstände sind keine Ideen im Sinne Platons, weil sie wegen ihrer allgemeinen Materie ***materiell*** sind. Thomas lehnt in *In De Trin.* die Annahme der Ideen Platons ab.[15] Somit ist auch der Mensch, insofern er Mensch ist, keine platonische Idee, sondern ein allgemeiner materieller Gegenstand, der in jedem einzelnen Menschen "enthalten" ist. Er ist nicht von der Materie getrennt.[16] Nach Thomas gibt es also allgemeine materielle Gegenstände (z. B. den allgemeinen Menschen) und individuelle materielle Gegenstände (z. B. ***diesen*** Menschen A). Die allgemeinen materiellen Gegenstände werden durch die ***abstractio universalis a particulari*** zwar erkannt, aber nicht geschaffen. Sie existieren auch ohne diese ***abstractio***, allerdings nicht ***neben***, sondern gleichsam, wie gesagt, in den individuellen materiellen Gegenständen. Natürlich wirft diese ontologische Position wichtige Fragen auf, etwa die, wo denn genau sich die allgemeinen materiellen Gegenstände befinden, wenn es sich bei ihnen nicht um die abstrakten Ideen Platons handeln soll? An welchem Ort befindet sich beispielsweise der allgemeine Mensch? Existiert er jeweils genau an den Raum-Zeit-Stellen, an denen die individuellen Menschen existieren? Wenn nein, wo dann? Wenn ja, wie kann es sein, daß ein und derselbe Gegenstand—der allgemeine Mensch—sich gleichzeitig an mehreren, voneinander räumlich getrennten Orten befindet? Vielleicht könnte man sagen, daß dies insofern möglich ist, als sich der allgemeine Mensch gleichsam aufteilt, so daß sich ein Teil von ihm am Ort x und ein anderer Teil gleichzeitig an einem von x verschiedenen Ort y befindet? Diese Antwort wäre freilich nicht im Sinne Thomas', der vielmehr der Auffassung ist, daß sich der allgemeine Mensch ***vollständig*** sowohl an x als auch an y befindet, vorausgesetzt an x und y befinden sich individuelle Menschen. Wäre dann der allgemeine Mensch an x und der allgemeine Mensch an y tatsächlich ein und derselbe Gegenstand? Würden sie sich nicht zumindest hinsichtlich ihrer räumlichen Koordinaten (zu einem gegebenen Zeitpunkt) unterscheiden? Ferner: Hört der allgemeine Mensch auf zu existieren, wenn es keine individuellen Menschen mehr gibt? Diese

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[15] Vgl. In De Trin. q. 5 a. 2 corp. art. (142f.).

[16] In De Trin. q. 5 a. 2 corp. art. (143): "...*singularia includunt in sui ratione materiam signatam, uniuersalia uero materiam communem*..." In De Trin. q. 5 a. 3 corp. art. (149): "...*inciderunt in errorem ut ponerent... uniuersalia a sensibilibus separata*..." Vgl. auch Fußnote 13.

Frage müßte bejaht werden, wenn der allgemeine Mensch nur "in" den individuellen Menschen existiert. Andererseits dürfte es dann heute beispielsweise kein *allgemeines* Mammut geben, weil es kein *individuelles* Mammut mehr gibt. Wie wäre nach Thomas in diesem Fall heute noch eine wissenschaftliche, also allgemeine Aussage über Mammuts möglich? Müßte er nicht doch annehmen, daß die allgemeinen materiellen Gegenstände zumindest insofern ideell im Sinne Platons sind, als sie unabhängig von ihren wirklichen Exemplaren existieren können? Könnten sie dann aber noch materiell sein?

Wie dem auch sei, Thomas ist der Auffassung, daß es sowohl allgemeine als auch individuelle materielle Gegenstände gibt. Jetzt soll untersucht werden, in welcher Weise aus diesen Gegenständen, seien sie individuell oder allgemein, sich die mathematischen Gegenstände seiner Ansicht nach "herausziehen" lassen.

III. Allgemeine und individuelle mathematische Gegenstände

Auch die Mathematik soll sich als Disziplin der theoretischen Philosophie ausschließlich mit solchen Dingen befassen, die nicht durch die Tätigkeit des Menschen entstehen, ihre Gegenstände sollen nicht durch den Menschen erschaffen werden.[17] Darin stimmt Thomas mit der klassischen Mathematik überein, nach der die mathematischen Gegenstände nicht gedanklich konstruiert, nicht erfunden bzw. erschaffen, sondern entdeckt werden. Diese Position ist alt, sie findet sich bereits in Platons *Euthydemos*, wo von den Meßkünstlern, Rechnern und Sternkundigen gesagt wird, daß sie "ihre Figuren und Zahlenreihen nicht machen, sondern diese sind schon, und sie finden sie nur auf, wie sie sind."[18] Auch Aristoteles ist auf dem Gebiet der Mathematik Realist.[19] Maurer betont, daß die realistische Auffassung von der Mathematik im gesamten 13. Jahrhundert akzeptiert wurde, insbesondere auch bei Albertus Magnus, Robertus Kilwardby und im allgemeinen bei den Magistern der Künste in Paris.[20] Wir werden allerdings sehen, daß nach Thomas eine besondere Verstandestätigkeit, die *abstractio formae*, dazu erforderlich ist, um die mathematischen Gegenstände zu erfassen, wenngleich diese Gegenstände nicht durch diese Tätigkeit konstruiert werden.[21]

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[17] Zur Stellung der Mathematik im thomasischen System der theoretischen Philosophie vgl. Whittaker, 'The Position of Mathematics', u. Patt, *Metaphysik bei Thomas von Aquin*, 43-47.

[18] Platon, *Euthydemos*, 290 b, c, in *Platon Sämtliche Werke*, ed. Karlheinz Hülser, 10 vol. (Frankfurt am Main-Leipzig, 1991), vol. 3, 323.

[19] Vgl. J. Annas, 'Die Gegenstände der Mathematik bei Aristoteles', in *Mathematics and Metaphysics in Aristotle*, ed. Andreas Graeser (Bern-Stuttgart, 1987), 131-147. Annas bespricht dort insbesondere auch den Abstraktionsbegriff des Aristoteles. Zum ontologischen Status der mathematischen Objekte bei Aristoteles vgl. auch John J. Cleary, *Aristotle and Mathematics. Aporetic Method in Cosmology and Metaphysics* (Leiden-New York-Köln, 1995), 268-344.

Nach der in den Vorbemerkungen genannten Definition 2 ist x genau dann Gegenstand der Mathematik, wenn gilt:
(1) Wenn x existiert, dann existiert auch Materie.
(2) Die Definition von x sagt nicht aus, daß x materiell ist.

Die Bedingung (2) ist, wie eingangs erwähnt, nicht ohne weiteres damit gleichzusetzen, daß die Definition von x aussagt, daß x nicht materiell ist, aus ihr allein folgt insbesondere nicht, daß mathematische Gegenstände nicht materiell sind. Thomas ist gleichwohl der Ansicht, daß diese Gegenstände in der Tat nicht materiell sind, sie sollen *quantitative Formen* sein. Zwar spricht er gelegentlich davon, daß die mathematischen Gegenstände materiell gemäß der *materia intelligibilis* sind, nur handelt es sich bei dieser Materie um eine Materie im übertragenen Sinn: Ein mathematischer Gegenstand ist materiell gemäß der *materia intelligibilis* gerade dann, wenn er als "Stoff" oder "Mittel" innerhalb eines mathematischen Beweises verwendet wird.[22] Diese abgeleitete, im Grunde äquivoke, bestenfalls analoge Verwendung von "*materia*" soll an dieser Stelle nicht weiter interessieren. Somit ergibt sich folgende modifizierte Definition:

Definition 2': x ist genau dann Gegenstand der Mathematik, wenn gilt:
(1) Wenn x existiert, dann existiert auch Materie.
(2) x ist nicht materiell.

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[20] Vgl. Maurer, 'Thomists and Thomas Aquinas', 60.

[21] Anderson, 'Intelligibel Matter and the Objects of Mathematics', vergleicht die thomasische Philosophie der Mathematik mit der aristotelischen. Er stellt sowohl Gemeinsamkeiten als auch Unterschiede heraus und bemerkt in diesem Zusammenhang, daß nach Auffassung vieler Kommentatoren die mathematischen Gegenstände nach Thomas eine Art Zwischenstatus hätten: "... they are neither purely beings of reason nor real beings, but share features of both" (vgl. 559, Fußnote 13). Diese Interpretation gibt jedoch die realistische Position des Thomas bezüglich der mathematischen Gegenstände mißverständlich wieder, denn nach Thomas haben die mathematischen Gegenstände keinen wie auch immer gearteten Aspekt eines Produkts des menschlichen Geistes. Ebenso ist Andersons Behauptung, daß nach Thomas die mathematischen Gegenstände physikalischen Quantitäten korrespondieren (correspond to physical quantities), zumindest unpräzise (vgl. 'Aristotle and Aquinas', 255). Für Thomas sind Quantitäten mathematisch und diesen sollen keine mathematischen Gegenstände *korresponieren*, sondern die mathematischen Gegenstände sollen diese Quantitäten *sein*.

[22] Vgl. In De Trin. q. 5 a. 3 ad 4 (150).

Die mathematischen Gegenstände werden in geometrische und in arithmetische unterteilt, wobei der ursprüngliche Gegenstand der Geometrie der Punkt, der ursprüngliche Gegenstand der Arithmetik die Einheit ist.[23] Thomas kennt die Arithmetik aus Boethius' *De institutione arithmetica* und die Geometrie aus Euklids *Elementa geometriae.*[24] Betrachten wir die (abgeleiteten) geometrischen Gegenstände Linie, Fläche bzw. Figur und Körper. Nach Definition 2' existieren diese Gegenstände nur dann, wenn Materie existiert, ohne daß sie selbst materiell sind. Wie hat man das zu verstehen? Nach Thomas ist jeder mathematische Gegenstand ein Akzidenz, eine Eigenschaft, eines materiellen Gegenstandes, der dann der jeweilige Träger dieser Eigenschaft ist.[25] Insofern die mathematischen Gegenstände im allgemeinen und die genannten geometrischen Gegenstände im besonderen Eigenschaften materieller Gegenstände sind, existieren sie nur dann, wenn Materie existiert. Auch wenn die mathematischen Gegenstände nicht materiell sind, so impliziert doch ihre Existenz die Existenz von Materie, weil ihre Existenz die Existenz materieller Träger impliziert und die Existenz materieller Träger trivialerweise die Existenz von Materie impliziert. Obwohl die mathematischen Gegenstände an die Existenz materieller Träger gebunden sind, geht die Materialität ihrer Träger nicht auf sie über. Insbesondere folgt aus der Nichtmaterialität der mathematischen Gegenstände, daß sie keine materiellen Teile materieller Gegenstände sind.

Die Gegenstände der Naturphilosophie werden vermöge ihrer jeweils verschiedenen Artzugehörigkeit, ihrer jeweils verschiedenen Definition unterschieden. Die individuellen Gegenstände—der Mensch A, das Pferd a usw.—sind als individuelle Gegenstände für die Naturphilosophie nicht von Interesse. Läßt sich Entsprechendes in Bezug auf die Mathematik sagen? Sind die Gegenstände der Mathematik also *allgemeine* Gegenstände? Der Mathematiker soll zwar ebenso wie der Naturphilosoph eine Abstraktion vollziehen, nur soll es bei der mathematischen Abstraktion um das "Herausziehen" bestimmter *Formen* gehen, so daß diese Abstraktion *abstractio formae*, Abstraktion der Form genannt wird.[26] Die Form, die durch die *abstractio formae* abstrahiert,

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[23] Vgl. In De Trin. q. 5 a. 3 ad 6 (151), Sth I q. 1 a. 2 corp. art., q. 3 a. 5 corp. art. Vgl. auch Winance, 'Note sur l'abstraction mathématique', 488.

[24] Vgl. Maurer, 'Thomists and Thomas Aquinas', 59.

[25] Vgl. In De Trin. q. 5 a. 3 ad 2 (150): "*non enim materia sensibilis comparatur ad lineam sicut pars, set magis sicut subiectum in quo esse habet; et similiter est de superficie et corpore.*"

[26] Vgl. In De Trin. q. 5 a. 3 corp. art. (149).

"herausgezogen", wird, ist nicht *die* Form, die als individuelle Form zusammen mit einer individuellen Materie einen individuellen materiellen Gegenstand bildet (etwa die Form—die Seele—des Menschen A), sie ist auch nicht *die* Form eines materiellen Gegenstandes, die als allgemeine Form zusammen mit einer allgemeinen Materie einen allgemeinen materiellen Gegenstand bildet (etwa die Form—die Seele—des Menschen als Menschen), sondern sie ist die quantitative Form dieses materiellen Gegenstandes, und zwar entweder die geometrische oder die arithmetische Form. Die Mathematik soll demnach die geometrische oder arithmetische Form eines materiellen Gegenstandes erfassen, etwa dann, wenn sie einen Kreis aus einer Münze[27] oder eine Zahl aus einer bestimmten Kollektion[28] "herauszieht". Sollen diese Formen nun aber allgemein oder individuell sein, sollen also die durch die *abstractio formae* erfaßten Gegenstände, die Gegenstände der Mathematik, allgemein sein, so wie die durch die *abstractio universalis a particulari* erfaßten Gegenstände der Naturphilosophie allgemein sind, oder sollen sie individuell sein? Da die Mathematik eine Disziplin der theoretischen Philosophie und als solche eine Wissenschaft sein soll, wird sie sich letztlich um allgemeine Aussagen, um Aussagen über allgemeine Gegenstände bemühen müssen. Insofern werden allgemeine mathematische Gegenstände, mathematische Arten[29], von der *abstractio formae* erfaßt. Allerdings gibt es nach Thomas auch individuelle mathematische Gegenstände. Betrachten wir etwa seine Reaktion auf einen Einwand gegen seine Annahme, daß die Mathematik von der Materie absieht. Der Einwand lautet wie folgt:

> Alle Geraden sind von derselben Art. Aber der Mathematiker betrachtet die Geraden, indem er sie zählt, andernfalls könnte er das Dreieck und das Quadrat nicht betrachten. Also betrachtet er die Linien, insofern sie sich der Zahl nach unterscheiden und der Art nach übereinstimmen. Aber das Prinzip des Unterscheidens für die Dinge, die der Art nach übereinstimmen, ist die Materie... Also wird die Materie vom Mathematiker betrachtet.[30]

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[27] Vgl. Sth I q. 40 a. 3 corp. art.

[28] Vgl. Sth I q. 11 a. 3 ad 2.

[29] Vgl. In De Trin. q. 5 a. 3 ad 3 (150), Sth I q. 7 a. 4 ad 2, q. 85 a. 1 ad 2.

[30] In De Trin. q. 5 a. 3 arg. 3 (145): "*Omnes linee recte sunt eiusdem speciei. Set mathematicus considerat lineas rectas numerando eas, alias non consideraret triangulum et quadratum; ergo considerat lineas secundum quod differunt numero et conueniunt specie. Set principium differendi his que secundum speciem conueniunt est materia... Ergo materia consideratur a mathematico.*" Eine etwas andere deutsche Übersetzung findet sich in Thomas von Aquin, *Über die Trinität. Eine Auslegung der gleichnamigen Schrift des Boethius. In librum Boethii De trinitate expositio*, Übersetzung von Hans Lentz (Stuttgart, 1988), 206.

Es wird also so argumentiert:

(1) Alle Geraden sind von derselben Art.
(2) Der Mathematiker zählt diese Geraden.
(3) Also betrachtet der Mathematiker Gegenstände innerhalb einer Art.
(4) Man kann nur dann Gegenstände innerhalb einer Art betrachten, wenn man nicht von der Materie absieht, die diese Gegenstände individuiert.
(5) Also sieht der Mathematiker nicht von der Materie ab.

Bei diesem Argument sei einmal vorausgesetzt, daß die Aussage (1) wahr ist. Das ist insofern nicht abwegig, als man individuelle Geraden zu einer Art zusammenfassen kann, indem man Geraden als bestimmte Punktmengen definiert, die gewissen Axiomen genügen. (2) wird vom Einwand damit begründet, daß man andernfalls Dreiecke und Quadrate nicht unterscheiden könnte. Dies leuchtet ein, da bei der Definition von n-Ecken die Anzahl der Seiten zumindest implizit relevant ist. Aus (1) und (2) folgt (3), aus (3) und (4) folgt (5). Somit wäre der Einwand berechtigt. Thomas kritisiert an dieser Überlegung nun nicht etwa die Behauptungen (2) oder (3), die implizieren, daß es individuelle mathematische Gegenstände gibt, sondern die Behauptung (4).[31] Der eigentliche, erste Grund für die Unterscheidung dessen, was zur selben Art gehört, sei nicht die Materie, sondern die verschiedene Lage im Raum. Die Ursache für die zahlenmäßige Verschiedenheit ist, so Thomas an anderer Stelle, die räumliche Verschiedenheit.[32]

Diese Aussagen stehen nur auf den ersten Blick im Widerspruch zur seiner Ansicht, wonach die *materia signata* das Individuationsprinzip der materiellen Gegenstände ist, denn die *materia signata*, so wird jetzt deutlich, soll gerade wegen ihrer räumlichen Verteilung individuieren können. Da es sich bei den mathematischen Gegenständen um nichtmaterielle Gegenstände handelt, können sie, so darf man Thomas interpretieren, direkt aufgrund ihrer verschiedenen räumlichen Lage, gleichsam ohne Umweg über die *materia signata*, individuiert werden. Daher kann der Mathematiker von der Materie absehen und individuelle Geraden aufgrund ihrer verschiedenen Lage im Raum unterscheiden.[33] Folglich gehören zu den mathematischen Gegenständen sehr wohl individuelle Gegenstände, die sich dann aufgrund ihrer Lage im Raum unterscheiden lassen. Wenn man mit Thomas annimmt, daß individuelle mathematische Gegenstände Eigenschaften individueller materieller Gegenstände sind, und wenn man ferner voraussetzt, daß sich verschiedene individuelle materielle Gegenstände nicht gleichzeitig an derselben Raumstelle befinden—auch dies tut Thomas—[34], dann kann man mit ihm der Auffassung sein, daß sich verschiedene individuelle mathematische Gegenstände zu einem gegebenen Zeitpunkt an verschiedenen Raumstellen befinden. Wenn beispielsweise zwei Münzen zu einem Zeitpunkt verschiedene Raumstellen einnehmen, dann nehmen auch die beiden Kreise, die Eigenschaften dieser Münzen sein sollen, zu diesem Zeitpunkt verschiedene Raumstellen ein. Zwar sind mathematische Gegenstände nach Definition 2' nicht materiell, sie können jedoch insofern im Raum sein, als sich ihre materiellen Träger im Raum befinden. Getrennt von ihren Trägern sind die mathematischen Gegenstände freilich insofern unräumlich, als es sie—getrennt—überhaupt nicht gibt.[35] Folglich sind sie keine Formen im Sinne Platons. Sie können nur "an" materiellen Gegenständen existieren, wenngleich sie getrennt von ihnen *betrachtet* werden können.[36] Die beiden Kreise haben also insofern eine verschiedene Lage im Raum, als sie jeweils Eigenschaft eines sich im Raum befindenden materiellen Gegenstandes sind.

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[31] Vgl. In De Trin. q. 5 a. 3 ad 3 (150).

[32] Vgl. In De Trin. q. 4 a. 4 corp. art. (132): "*set si diuersitas loci consideretur secundum suam causam, sic planum est quod diuersitas loci est causa diuersitatis secundum numerum.*"

[33] Vgl. auch In De Trin. q. 4 a. 3 corp. art. (129): "*In mathematicis enim non potest assignari ratio diuersitatis harum duarum linearum nisi propter situm.*"

Halten wir fest, daß es sowohl allgemeine als auch individuelle mathematische Gegenstände gibt, beide werden durch die *abstractio formae* erfaßt. In welcher Beziehung, in welcher Reihenfolge hinsichtlich der Erkenntnis stehen diese Gegenstände im Prozeß der *abstractio formae*? Es lassen sich prinzipiell drei mögliche Fälle auseinanderhalten: Die *abstractio formae* erfaßt

(a) zunächst die individuellen mathematischen Gegenstände und aus diesen die allgemeinen mathematischen Gegenstände
oder
(b) zunächst die allgemeinen mathematischen Gegenstände und aus diesen die individuellen mathematischen Gegenstände
oder

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[34] Vgl. In De Trin. q. 4 a. 3 corp. art. (128f.), a. 4 corp. art. (132).

[35] Vgl. In De Trin. q. 5 a. 3 corp. art. (149): "*...inciderunt in errorem ut ponerent mathematica... a sensibilibus separata...*" Sth I q. 5 a. 3 ad 4: "*...mathematica non subsistunt separata secundum esse...*"

[36] Vgl. Maurer, 'Thomists and Thomas Aquinas', 59. Thomas hat klar gesehen, daß auch bei Aristoteles die abstrahierten Gegenstände zwar getrennt, aber nicht *als* getrennt betrachtet werden. Vgl. Aubenque, 'Abstraktion I', 43.

(c) sowohl die individuellen als auch die allgemeinen mathematischen Gegenstände unabhängig voneinander, gewissermaßen gleichzeitig aus den gegebenen materiellen Gegenständen.

Ein Beispiel: Eine Münze habe die Form eines bestimmten Kreises. Es könnte sein, daß die *abstractio formae* zunächst den individuellen Kreis und aus diesem den allgemeinen Kreis erfaßt, es könnte aber auch sein, daß sie zunächst den allgemeinen Kreis und aus diesem den individuellen Kreis erfaßt, und es könnte schließlich sein, daß sie beide Kreise, sowohl den individuellen Kreis der Münze als auch den allgemeinen Kreis, unabhängig voneinander aus der Münze erfaßt. Welcher der drei Fälle ist nach Thomas zutreffend? Da es sich bei der Mathematik um eine Wissenschaft handelt, wird es ihr letztlich um Aussagen über allgemeine Gegenstände gehen, so daß die allgemeinen mathematischen Gegenstände das eigentliche Ziel der *abstractio formae* sind. Außerdem sollen die mathematischen Arten, d. h. die allgemeinen mathematischen Gegenstände, nicht nur aus den individuellen materiellen Gegenständen, sondern auch aus den allgemeinen materiellen Gegenständen abstrahiert werden, indem nicht nur von der individuellen, sondern auch von der allgemeinen Materie abgesehen wird: "*Species autem mathematicae possunt abstrahi... a materia sensibili non solum individuali, sed etiam communi.*"[37] Demnach gilt zweierlei:

Satz 1: Die allgemeinen mathematischen Gegenstände werden aus *individuellen* materiellen Gegenständen abstrahiert.
Satz 2: Die allgemeinen mathematischen Gegenstände werden aus *allgemeinen* materiellen Gegenständen abstrahiert.

Wegen Satz 1 ist klar, daß Thomas hinsichtlich der Frage, in welcher Beziehung die individuellen und allgemeinen mathematischen Gegenstände im Prozeß der *abstractio formae* stehen, Fall (a) favorisiert, denn eine Abstraktion allgemeiner mathematischer Gegenstände aus individuellen materiellen Gegenständen ist nur über individuelle mathematische Gegenstände möglich, so daß diese Abstraktion aus zwei Teilprozessen besteht, einem ersten, in dem aus individuellen *materiellen* Gegenständen individuelle *mathematische* Gegenstände "herausgezogen" werden, und einem zweiten, in dem aus diesen

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[37] Sth I q. 85 a. 1 ad 2. Vgl. Neumann, *Gegenstand und Methode*, 111: "Die mathematischen Gegenstände können sowohl von der singulären wie allgemeinen Sinnesmaterie abstrahiert werden..." Vgl. auch Winance, 'Note sur l'abstraction mathématique', 491.

individuellen mathematischen Gegenständen *allgemeine* mathematische Gegenstände "herausgezogen" werden.

Angesichts dieses zweiten Teilprozesses läßt sich fragen, ob Thomas dem Abstraktionsbegriff von Lorenzen[38] zustimmen würde, gemäß dem bei der Abstraktion im Grunde nichts anderes geschieht, als daß in neuer Weise von alten Gegenständen geredet wird, jedoch keine neuen Gegenstände erschaffen werden, wobei dieses "neue Reden" dadurch erfolgen soll, daß man sich auf sogenannte invariante Aussageformen beschränkt und Aussageformen, die nicht invariant sind, als unzulässig zurückweist. Demnach liegt ein Abstraktionsprozeß genau dann vor, wenn man lediglich bezüglich einer gewählten Äquivalenzrelation invariante Aussageformen akzeptiert. Hierbei ist eine Aussageform A(...) genau dann invariant bezüglich einer gegebenen Äquivalenzrelation R, wenn für alle x, y aus der Beziehung xRy folgt, daß die Aussage A(x) genau dann gilt, wenn die Aussage A(y) gilt. Bei der Abstraktion beschränkt man sich also auf diejenigen Aussagen, deren Gültigkeit sich nicht ändert, wenn man die relevante Konstante durch eine zu ihr gemäß R äquivalente Konstante ersetzt. Ein Beispiel aus der Schulmathematik: Betrachtet werden die Menge der positiven gemeinen Brüche und die Menge der positiven rationalen Zahlen. Geht man von der ersten auf die zweite Menge über, wird insofern eine Abstraktion im Sinne Lorenzens vollzogen, als man dann nur Aussagen zuläßt, deren Gültigkeit sich bei Ersetzung eines Bruches durch einen dazu äquivalenten Bruch nicht ändert, man beschränkt sich also auf bestimmte, bezüglich einer Äquivalenzrelation invariante Aussageformen. Die Äquivalenzrelation wäre in diesem Fall die Relation, die Brüche genau dann als äquivalent ansieht, wenn deren Zähler und Nenner überkreuz multipliziert das gleiche Produkt ergeben.

Könnte Thomas diesem Abstraktionsverständnis für den zweiten Teilprozeß der oben geschilderten Abstraktion allgemeiner mathematischer Gegenstände aus individuellen materiellen Gegenständen—der Abstraktion allgemeiner mathematischer Gegenstände aus individuellen mathematischen Gegenständen—zustimmen? Dazu müßte er eine Äquivalenzrelation angeben, durch die die individuellen mathematischen Gegenstände zu Mengen jeweils untereinander äquivalenter individueller mathematischer Gegenstände zusammengefaßt werden. Von der Verschiedenheit der individuellen mathematischen Gegenstände in diesen Mengen müßte abgesehen werden. Die Menge aller Geraden könnte eine solche Menge sein, die Menge aller Kreise eine andere.

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[38] Vgl. zum Folgenden Paul Lorenzen, *Lehrbuch der konstruktiven Wissenschaftstheorie* (Mannheim-Wien-Zürich, 1987), 161-169.

Die Abstraktion würde dadurch geschehen, daß man nur solche Aussageformen zuläßt, die bezüglich der Äquivalenzrelation invariant sind, also nur solche Aussagen, deren Gültigkeit sich bei der Ersetzung des Ausdrucks, der für eine bestimmte einzelne Gerade steht, durch einen Ausdruck, der für eine andere bestimmte einzelne Gerade steht, ebensowenig ändert, wie bei der Ersetzung des Ausdrucks, der für einen bestimmten einzelnen Kreis steht, durch einen Ausdruck, der für einen anderen bestimmten einzelnen Kreis steht. Man tut nur so, als ob man über neue Gegenstände, über die allgemeine Gerade oder über den allgemeinen Kreis, redet, obwohl man *nur in neuer Weise* über die alten Gegenstände, also über die einzelnen Geraden und Kreise redet. Verboten sind solche Sätze wie "Die Gerade a hat keinen Anfangs- und keinen Endpunkt", solange damit etwas anderes gesagt wird als mit dem Satz "Die Gerade b hat keinen Anfangs- und keinen Endpunkt". Werden diese beiden Sätze als tautologisch angesehen, da sie ein und denselben Sachverhalt aussagen, den Sachverhalt, daß Geraden keinen Anfangs- und keinen Endpunkt haben, sind sie zugelassen.

Bei einer derartigen Anwendung des geschilderten Abstraktionsverfahrens wäre freilich einiges zu klären, beispielsweise, durch welche Äquivalenzrelation genau die individuellen mathematischen Gegenstände in bestimmte Mengen, etwa in die Menge der Geraden, Kreise usw. sortiert werden. Sehr wahrscheinlich würde Thomas das Lorenzensche Verständnis von Abstraktion aber nicht akzeptieren. Zwar vertritt auch er die Auffassung, daß durch die Abstraktion keine neuen Gegenstände geschaffen werden, nur folgt das für ihn daraus, daß sie schon in der extramentalen Welt sind, so daß man sie nur entdecken muß, während es diese neuen Gegenstände nach Lorenzen nur scheinbar gibt, wir würden nur so reden, als ob es sie gibt. Nach Thomas werden weder die individuellen noch die allgemeinen mathematischen Gegenstände konstruiert, vielmehr sind sie schon da und es kommt darauf an, sie vermöge der Abstraktion zu erfassen. Außerdem soll es die Mathematik als Teil der theoretischen Philosophie mit Dingen zu tun haben, die nicht durch die Tätigkeit des Menschen entstehen, diese Dinge können folglich keine Produkte der menschlichen Redeweise sein.

Nach Satz 2 werden die allgemeinen mathematischen Gegenstände aus den allgemeinen materiellen Gegenständen abstrahiert. Da das Endergebnis dieser Abstraktion wiederum die in Satz 1 genannten allgemeinen mathematischen Gegenstände sind, liefert die Abstraktion der allgemeinen mathematischen Gegenstände aus den individuellen materiellen Gegenständen über die individuellen mathematischen Gegenstände dasselbe Ergebnis wie die Abstraktion der allgemeinen mathematischen Gegenstände aus den allgemeinen materiellen

Gegenständen, wobei bei der letzten Abstraktion angenommen wird, daß die allgemeinen materiellen Gegenstände aus den individuellen materiellen Gegenständen durch die *abstractio universalis a particulari* erfaßt werden. Diese Zusammenhänge lassen sich veranschaulichen:

individueller materieller Gegenstand (Münze A)	individueller materieller Gegenstand (Münze A)
↓	↓
individueller mathematischer Gegenstand (Kreisform der Münze A)	allgemeiner materieller Gegenstand (allgemeine Münze)
↓	↓
allgemeiner mathematischer Gegenstand (allgemeine Kreisform)	allgemeiner mathematischer Gegenstand (allgemeine Kreisform)

Sowohl der links als auch der rechts dargestellte Ablauf liefert allgemeine mathematische Gegenstände. Nun ergibt sich aber aus der Verschiedenheit dieser Abläufe, daß der Begriff der *abstractio formae* mehrdeutig ist, denn das Abstrahieren allgemeiner mathematischer Gegenstände aus individuellen materiellen Gegenständen über individuelle mathematische Gegenstände ist etwas anderes als das Abstrahieren allgemeiner mathematischer Gegenstände aus allgemeinen materiellen Gegenständen, mögen sich die Ergebnisse dieser Abstraktionsvorgänge auch nicht unterscheiden. Die Mehrdeutigkeit des Begriffs der *abstractio formae* resultiert weiter daraus, daß durch die *abstractio formae* nicht nur die allgemeinen mathematischen Gegenstände gewonnen werden, sondern auch die individuellen mathematischen Gegenstände, und zwar aus den individuellen materiellen Gegenständen, denn es ist offensichtlich, daß etwa der individuelle Kreis nur aus einem individuellen materiellen Gegenstand abstrahiert werden kann. Thomas spricht zwar auch davon, daß man sich mehrere individuelle mathematische Gegenstände innerhalb einer mathematischen Art vorstellen (*ymaginari*) könne.[39] Dieses Vorstellen ist jedoch nicht das Abstrahieren dieser Gegenstände aus individuellen materiellen Gegenständen, sondern Ergebnis des Berücksichtigens der räumlichen Lage der mathematischen Gegenstände.

Es ergeben sich also drei verschiedene Typen der *abstractio formae*:

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[39] Vgl. In De Trin. q. 5 a. 3 ad 3 (150).

(I) die Abstraktion allgemeiner mathematischer Gegenstände aus individuellen materiellen Gegenständen
(II) die Abstraktion allgemeiner mathematischer Gegenstände aus allgemeinen materiellen Gegenständen
(III) die Abstraktion individueller mathematischer Gegenstände aus individuellen materiellen Gegenständen.

Hierbei ist (III) ein Teilprozeß von (I).

Thomas zufolge sind mathematische Gegenstände—seien sie individuell oder allgemein—Eigenschaften materieller Gegenstände, und zwar sind, so können wir sagen, individuelle mathematische Gegenstände Eigenschaften individueller materieller Gegenstände und allgemeine mathematische Gegenstände Eigenschaften allgemeiner materieller Gegenstände. Wie ein individueller Kreis eine Eigenschaft eines individuellen materiellen kreisrunden Gegenstandes ist, so ist der allgemeine Kreis eine Eigenschaft des allgemeinen materiellen kreisrunden Gegenstandes. Da allgemeine materielle Gegenstände von der ***abstractio universalis a particulari*** erfaßt werden, müßte der allgemeine materielle kreisrunde Gegenstand von der Naturphilosophie betrachtet werden. Ob Thomas wohl diese Konsequenz gezogen hätte?

Wenden wir uns noch einmal der Definition 2' zu. Nach dieser Definition ist x genau dann Gegenstand der Mathematik, wenn gilt: (1) Wenn x existiert, dann existiert auch Materie, und (2) x ist nicht materiell. Sowohl die allgemeinen als auch die individuellen mathematischen Gegenstände erfüllen diese Definition, denn wenn ein individueller mathematischer Gegenstand existiert, existiert auch ein individueller materieller Gegenstand, von dem der individuelle mathematische Gegenstand eine Eigenschaft ist, und wenn ein allgemeiner mathematischer Gegenstand existiert, dann existiert ein allgemeiner materieller Gegenstand, von dem der allgemeine mathematische Gegenstand eine Eigenschaft ist. Außerdem sind weder die individuellen noch die allgemeinen mathematischen Gegenstände materiell. Aber sollte Thomas nicht auch der Ansicht sein, daß man die von der Materie getrennten Substanzen, etwa die Engel, zählen kann? Sollte er dann nicht zulassen, daß Zahlen Eigenschaften von Gegenständen sein können, die nicht materiell sind? Und könnte man nicht auch dann Engel zählen, wenn es nur Engel gäbe? Generell ist die Annahme, daß mathematische Gegenstände Eigenschaften materieller Gegenstände sind, schon für natürliche Zahlen problematisch. In der modernen Mengenlehre werden diese Zahlen als besondere Mengen aufgefaßt, wobei dies in verschiedener Weise geschehen kann. Wenn Zahlen Mengen sind, dann sind sie zwar keine materiellen Gegenstände; insofern wäre Forderung

(2) der Definition 2' erfüllt. Aber Forderung (1) wäre nicht erfüllt, denn natürliche Zahlen lassen sich auch so definieren, daß man lediglich die leere Menge und eine "Nachfolgevorschrift" benötigt, um Mengen zu definieren, die dann jeweils mit einer natürlichen Zahl identifiziert werden. So kann man die Zahlen 0, 1, 2, 3,... etwa als $\emptyset$, $\{\emptyset\}$, $\{\{\emptyset\}\}$, $\{\{\{\emptyset\}\}\}$,... oder als $\emptyset$, $\{\emptyset\}$, $\{\emptyset, \{\emptyset\}\}$, $\{\emptyset, \{\emptyset\}, \{\emptyset, \{\emptyset\}\}\}$,... definieren, wie es Zermelo bzw. von Neumann getan haben.[40] Frege beispielsweise hat die natürliche Zahl n mit der Menge aller Mengen, die n Elemente enthält, identifiziert,[41] so daß, wenn Zahlen als Eigenschaften betrachtet werden sollten, sie als Eigenschaften von Mengen aufzufassen wären,[42] also als Eigenschaften von Gegenständen, die nicht materiell sind. Diese so definierten Zahlen wären demnach keine mathematischen Gegenstände für Thomas. Die Frage, ob es vielleicht andere, nicht mengentheoretische, aber dennoch für die moderne Mathematik brauchbare Definitionsversuche für die natürlichen Zahlen gibt, die geeignet sein könnten, der thomasischen Position, daß mathematische Gegenstände Eigenschaften materieller Gegenstände sind, einen akzeptablen Sinn abzugewinnen, ist ein Thema für einen anderen Aufsatz.

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40) Vgl. Heinz-Dieter Ebbinghaus, *Einführung in die Mengenlehre* (Mannheim-Leipzig-Wien-Zürich, 1994), 77.

41) Vgl. Gottlob Frege, *Die Grundlagen der Arithmetik. Eine logisch mathematische Untersuchung über den Begriff der Zahl*, ed. Joachim Schulte (Stuttgart, 2005), 100.

42) Quine versucht in diesem Sinne für die intuitive Anschaulichkeit von Freges Fassung zu argumentieren. Vgl. Willard Van Orman Quine, *Word und Gegenstand* (Stuttgart, 1993), 453.

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Insolubilia and the Fallacy *Secundum Quid et Simpliciter*

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Abstract

Thomas Bradwardine makes much of the fact that his solution to the insolubles is in accordance with Aristotle's diagnosis of the fallacy in the Liar paradox as that of *secundum quid et simpliciter*. Paul Spade, however, claims that this invocation of Aristotle by Bradwardine is purely "honorary" in order to confer specious respectability on his analysis and give it a spurious weight of authority. Our answer to Spade follows Bradwardine's response to the problem of revenge: any proposition saying of itself that it is false says more than does Bradwardine's proposition saying of it that it is false, and so follows from that other proposition only in respect of part of what it says, and not *simpliciter*.

Keywords
fallacy, *insolubilia*; Bradwardine, Spade

1. Introduction

It is widely recognized that the historical development of Liar paradoxes in the later Middle Ages, then known as *Insolubilia*, is intimately related to the fallacy *secundum quid et simpliciter*.[1] It is as yet not entirely clear how exactly the first formulations of *insolubilia* (or logical paradoxes) came about (the first such formulations are from the end of the 12th century), as the possible

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[1] L.M. De Rijk, *Logica Modernorum* (Assen, 1962-67); P.V. Spade, 'The origins of the medieval *Insolubilia*-literature', *Franciscan Studies 33* (1973), 292-309, repr. in Spade, *Lies, Language and Logic in the Late Middle Ages* (London, 1988); C. Martin, 'Obligations and Liars', in *Sophisms in Medieval Logic and Grammar*, ed. S. Read (Dordrecht, 1993).

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ancient sources simply do not seem to offer enough material for a full-fledged realization of their deeply paradoxical nature. Christopher Martin[2] has argued convincingly that one of the main factors in the development of the *insolubilia* genre in the Middle Ages was the development of the typically medieval kind of oral disputation known as *obligationes*. Indeed, for a successful performance in such disputations, it was essential to be able to identify paradoxical propositions, as the setup for such disputations, the *casus*, was often intended to generate precisely this kind of self-referential statement, and as granting a paradoxical proposition spelled defeat for the respondent. Nevertheless, the fallacy *secundum quid et simpliciter* seems to be one of the best candidates as the main ancient source of inspiration for the *insolubilia*-literature.

However, Paul Vincent Spade has claimed in several places that, while the historical connection is patent, the conceptual connection between this fallacy and *insolubilia* is in fact rather meagre.[3] He says that the uses of this fallacy made by several authors in their treatment of *insolubilia* is conceptually very far from what Aristotle had intended in his own text; such uses, he adds, are at best adaptations of the original concepts defining the fallacy *secundum quid et simpliciter*. Moreover, he considers later invocations of this fallacy in treatments of *insolubilia*, in particular in Bradwardine's solution in the 14th century, as purely "honorary";[4] it was solely out of respect for the tradition—indeed, a fallacy *ad verecundiam*—that Bradwardine invoked this fallacy in connection with *insolubilia* and not on the basis of real conceptual kinship.

In this paper, we consider and reject Spade's assessment, with particular respect to Bradwardine. We will argue that Bradwardine's solution in fact fits neatly into the conceptual structure underlying the fallacy *secundum quid et simpliciter*. Spade's criticism may stem from too narrow an understanding of this fallacy. By contrast, we view this fallacy as a remarkably flexible conceptual framework, applicable to a variety of phenomena and situations, but without losing its coherence.

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[2] Martin, 'Obligations and Liars'.

[3] Spade, 'The origins of the medieval *Insolubilia*-literature'; Spade, *The Medieval Liar: A Catalogue of the* Insolubilia-*Literature* (Toronto, 1975); Spade, 'Insolubilia', in *The Cambridge History of Later Medieval Philosophy*, eds. N. Kretzmann, A. Kenny and J. Pinborg (Cambridge, 1982), 246-52); Spade, 'Five early theories in the medieval *Insolubilia*-literature', *Vivarium* 25 (1987), 24-46; Spade, *Insolubles* (Stanford Encyclopedia of Philosophy 2005). K. Simmons, *Universality and the Liar* (Cambridge, 1993) §5.2.2, also rejects Spade's dismissal of *secundum quid et simpliciter* with respect to Pseudo-Sherwood's and Ockham's treatments of insolubles.

[4] Spade, 'Five early theories', n. 46, repeated in Spade, *Insolubles* §2.1.

2. The Fallacy *secundum quid et simpliciter*

The fallacy *secundum quid et simpliciter* is perhaps best seen as a large umbrella under which a wide variety of phenomena can be placed. The basic idea is that attributes may belong to a thing in an absolute sense, or by contrast only in a certain respect or aspect; similarly, a term may be predicated of a thing absolutely, or only in a certain respect. A fallacy *secundum quid et simpliciter* arises when, in an argument, "an expression used in a particular sense is taken as though it were used absolutely".[5] Such a passage is not always unwarranted, but in many cases it is, and this is why it is important to try to identify patterns of sophistical refutations related to the fact that terms can apply absolutely or only in certain respects to things. Aristotle classified the fallacy *secundum quid et simpliciter* as a fallacy *extra dictionem*, that is, a fallacy that is not dependent on particular uses of language. However, on many occasions, it seems that what is at the root of a fallacious argument of this kind is indeed the particular use of language. A few medieval texts in fact explicitly address the issue as to whether this fallacy may not be a fallacy *in dictione* after all,[6] and conclude that it is not, but this indicates that the doubt concerning the classification of this fallacy was not uncommon.

In his *Sophistical Refutations*, Aristotle proceeds as usual by providing several examples of occurrences of this fallacy, and, more than anything else, the examples are the core of his discussion. The wide variety of examples substantiates the claim that this fallacy is indeed a large and flexible umbrella, accounting for a wide variety of phenomena. Let us take a look at some of these examples. The first comes from ch. 5 (Aristotle, *De Sophisticis Elenchis* 167a1):

> If what is not is the object of an opinion, then what is not is.[7]

The problem here, Aristotle says, is that 'to be *X*' and 'to be *simpliciter*' are not the same. In this case, it is possible to be the object of opinion while not really existing (a chimera, for example), for to be the object of opinion is to be *secundum quid*, while to be is to be *simpliciter*. In this fallacious argument, then, from "to be *X*" (*secundum quid*), "to be" (*simpliciter*) is inferred. Aristotle adds that this confusion arises "because of the closeness of the expression, i.e. because "'to be *X*' is but little different from 'to be'" (167a4-6),[8] and this is an example of a case that seems dangerously close to a fallacy *in dictione*.

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[5] Aristotle, *De Sophisticis Elenchis* 166b39, transl. W. A. Pickard-Cambridge, in David Ross (ed.), *The Works of Aristotle*, vol. I. (Oxford, 1928).

[6] *Dialectica Monacensis* (De Rijk, *Logica Modernorum*), p. 593; William of Sherwood, *Introductiones in Logicam* (Hamburg, 1995), p. 200; Simon of Faversham, *Quaestiones super Libro* [sic]*Elenchorum*, ed. S. Ebbesen et al. (Toronto, 1984) p. 157; John Duns Scotus, *Quaestiones super Librum Elenchorum Aristotelis*, in *Opera Philosophica II*, eds. R. Andrews et al. (St. Bonaventure, NY—Washington DC, 2004).

[7] Aristoteles Latinus VI 1-3, ed. B. Dod (Leiden, 1975) translatio Boethii: "Si quod non est opinabile est, quoniam quod non est est." p. 11.

The next example is particularly significant in that it exposes the mereological facet of the fallacy. The example is: "Suppose an Indian to be black all over, but white with respect to his teeth; then he is both white and not white" (167a8-9).[9] The same example is said to apply to an Ethiopian (later a recurrent example in the medieval literature on this fallacy). The idea is that a black man is white *secundum quid*, i.e. with respect to a particular part of him, namely his teeth, while nevertheless being black *simpliciter*; more generally, attributes that apply only to parts of an object may be said to be attributes of the object *secundum quid* (i.e. with respect to the specific part in question), while attributes of the whole would be attributed to the object *simpliciter*. Indeed, in the 14th century, Buridan says that a general characteristic of these concepts is that "what is predicated *secundum quid* is related to what is predicated *simpliciter* as a part-in-mode is to its whole",[10] thus implying that the mereological reading of these concepts is crucial.

But for our present purposes, the two most important examples given by Aristotle come in the extended discussion in ch. 25 (180a11-181*a*1) and are those of the oath-breaker and of the man who says something true and false at the same time. These are indeed thought to be very likely sources for the formulation of the first medieval Liars.[11] The oath-breaker swears to break an oath, and then breaks an(other?) oath. A problem with this passage is that it seems to allow for two distinct readings: one according to which the oath in question is precisely that of breaking the very same oath, and the other according to which the first oath is that he will break an oath, not specifically this very oath, but any other oath (Spade defends this second reading, and adds that this is how most medievals read the passage).[12] Under the second reading, this example is not exactly analogous to the typical Liar sentence in that there is no circularity as there is with the Liar: oath 1 does not refer to oath 1 itself, but to any other oath. However, it is not implausible that at least some medieval authors read this passage under the first reading, namely that the oath made is: 'I promise to break this very oath'.

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[8] Aristoteles Latinus: "Videtur autem eo quod proxima sint dictione et parum differant esse quid et esse, et non esse quid et non esse." p. 11.

[9] Aristoteles Latinus: "Ut sit Indus, cum sit niger, albus est dentibus; albus ergo et non albus est." p. 11.

[10] J. Buridan, *Summulae de Dialectica*, transl. G. Klima (New Haven, CT, 2001), pp. 554-5: "Unde manifestum est quod dictum secundum quid ad dictum simpliciter est vel vere vel similitudinarie sicut pars in modo ad suum totum." (ed. Hubien).

[11] Cf. Spade, 'The origins of the medieval *Insolubilia*-literature'.

In this passage, what is important for our purposes is that from this Aristotle concludes that by keeping one oath (oath 1) but not keeping other oaths (oath 2 for example, under the non-self-referential reading), the man is not an oath-keeper *simpliciter*; he is an oath-keeper *secundum quid* with respect to oath 1, but to be an oath-keeper *simpliciter* he would have to keep all his oaths. Similarly, a disobedient man does not become obedient (*simpliciter*) merely by being obedient once, even though he may be said to have been obedient *secundum quid* (180a35-*b*2). This suggests a quantificational reading of *secundum quid* and *simpliciter*: (affirmative) statements *simpliciter* would correspond to universal quantification, while (affirmative) statements *secundum quid* would correspond to existential quantification. While very natural, this reading does not apply to all the cases where the *secundum quid* / *simpliciter* distinction holds; later in ch. 25 Aristotle presents cases of attributes that apply to something *simpliciter*, but not to each of its instances *secundum quid* (180b13-14): "There is nothing to prevent a thing, though good absolutely, from being not good to a particular man, or being good to a particular man, and yet not good now or here."[13]

Immediately after the oath-keeper example, Aristotle asks whether "the same man can at the same time say what is both false and true" (180b2-3).[14] He does not give a definitive answer to this problem, saying that "it is not easy to see in which of the two connections the word 'absolutely' is to be rendered—with true or with false."[15] (180b3-4) (We shall see later that Bradwardine does have an answer to this problem.) But Aristotle adds that it is possible for something (a proposition) to be false absolutely, though true in some particular respect, i.e. for it to be true *secundum quid* but not true

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[12] Cf. Spade, *Insolubles* §1.3.

[13] Aristoteles Latinus: "Nichil prohibet quod simpliciter est bonum huic non esse bonum, aut huic quidem bonum sed non nunc vel non in hoc bonum." p. 50.

[14] Aristoteles Latinus: "Similis autem ratio et de eo quod est mentiri eundem simul et verum esse." p. 50.

[15] Aristoteles Latinus: "Sed quia non est facile inspicere, utro modo quis assignet simpliciter verum esse vel mentiri, difficile videtur." p. 50.

simpliciter. It is a telling fact that no mention is made of the converse, that is, that something can be true *simpliciter* while being false *secundum quid*, and we shall see later that Bradwardine will indeed treat the latter case as impossible and the former as possible (agreeing thus with Aristotle on the former). The idea here seems to be the following: take the tricky statements often made by politicians. While in most cases there is some truth to what they say, such statements are overall false, i.e. false *simpliciter*, while nevertheless being true in some respects, i.e. *secundum quid*.

3. *Insolubilia*-Solutions Based on *secundum quid*

Spade addresses a range of texts dealing with *insolubilia* in the pre-Bradwardine period.[16] He says that his list is not meant to be exhaustive, but it is certainly representative of the *insolubilia* literature of this period. His list contains fifteen items, of which twelve present a direct or indirect connection with the fallacy *secundum quid et simpliciter*. Many of these texts are literal comments on the *Sophistici Elenchi*, others are collections of questions on the *Elenchi*. In other words, the *insolubilia* literature of this period is overwhelmingly even if not unanimously marked by its connection with the fallacy *secundum quid et simpliciter*.

What seems to make Spade question the conceptual kinship between this fallacy and solutions to *insolubilia* is the fact that "many of our authors use this fallacy in ways quite unlike what Aristotle had in mind."[17] He adds that "the fallacy *secundum quid et simpliciter* thus became a kind of authoritative framework that was imposed somewhat artificially on quite diverse attempts to solve the paradox."[18] Spade does not really give us arguments to support this accusation of artificiality; he is apparently convinced that the dissimilarity between the original conceptual framework of the fallacy *secundum quid et simpliciter* and its uses in the *insolubilia* literature is in fact self-evident.

Therefore, what needs to be done to question Spade's claim is to show that there is no such dissimilarity, or in any case not in a fundamental way. Medieval uses of the fallacy framework in particular, and of Aristotelian logic in general, are indeed characterized by this intriguing relationship of concomitant similarity and dissimilarity: while essentially inspired by the original Aristotelian ideas, the medieval authors invariably went beyond these ideas and gave them their own twist. Whether or not they remain faithful to the original Aristotelian framework is by and large a matter of the degree of similarity that one requires in order to pass the judgment of faithfulness.

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[16] Spade, 'Five early theories'.

[17] Spade, 'Five early theories', p. 32.

[18] Spade, 'Five early theories', p. 33.

Now, in order to substantiate our claim that, while certainly going beyond the original uses of the fallacy *secundum quid et simpliciter*, there is nevertheless considerable conceptual similarity between this fallacy and the medieval *insolubilia* uses of it, we shall examine three different ways in which the fallacy *secundum quid et simpliciter* was used in order to treat Liar sentences. The very fact that there are different uses of the same fallacy for this purpose indicates that it is indeed a flexible framework, as we have argued, and not that each of them is necessarily a departure from Aristotle's original ideas.

In fact, in the passages commented upon in the previous section, Aristotle is rather sketchy, putting forward suggestions more than full-fledged theories. He suggests that a proposition may be true *secundum quid* while false *simpliciter* but does not develop this point any further; the medieval authors will then apply this idea to Liar sentences, and they will also investigate why and with respect to what a Liar sentence is true *secundum quid* but false *simpliciter*. Different answers to these questions are then proposed, and one cannot say that they are "unlike what Aristotle had in mind", as Aristotle seemed not to have that much in mind with respect to this particular suggestion, or in any case nothing that can be gathered from the text alone.

Perhaps the most intuitive way to apply this fallacy to the problem, given that what is problematic with Liar sentences is that they seem to be true and false at the same time (which is counterintuitive), is to consider the possibility of different combinations of attributions of truth and falsity *secundum quid* and *simpliciter* to a proposition. Simon of Faversham considers four possibilities: the Liar sentence may be true *simpliciter* and false *simpliciter*; it may be true *secundum quid* and false *secundum quid*; it may be true *secundum quid* and false *simpliciter*; or false *secundum quid* and true *simpliciter*. He dismisses the first two: it is impossible for a proposition to be true *simpliciter* and false *simpliciter*, and if it were true *secundum quid* and false *secundum quid*, it would be an ambiguous proposition (multiplex), which it is not. He does not really argue against the fourth possibility, but gives compelling arguments on why the third is the case: '*dico falsum*' is true *secundum quid* and false *simpliciter*. It is false *simpliciter* because it signifies other than things are;[19] but it is true

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[19] Simon of Faversham, *Quaestiones super Libro Elenchorum*, p. 167: "aliud significat... quam sit in re".

secundum quid because whoever says that he says things are as he says they are speaks truly,[20] and the Liar sentence says that it says something false and indeed it says something false.

Another use of the fallacy *secundum quid et simpliciter* to solve *insolubilia* was in fact a modification of the original framework and concerned the use of the concepts *secundum quid* and *simpliciter* with respect to supposition. Broadly speaking, this was the strategy known as '*restrictio*', which consisted in restricting the supposition of a given term in case of self-reference: for example, in *L*: 'This sentence is false', 'false' could not supposit for *L* in virtue of being a part of *L*. As noted by Bradwardine[21] not all defenders of *restrictio* cast it in terms of *secundum quid et simpliciter* (Burley did not), but some did, such as Ockham[22] and Lambert of Lagny.[23] According to the latter, in *F*: '*ego dico falsum*', '*falsum*' supposits for *F* (the whole) only *secundum quid*; now, if '*falsum*' supposits for *F secundum quid*, then *F* is true *secundum quid*, since it says of itself that it is false, and indeed it is false (since '*falsum*' supposits for *F secundum quid*). However, Lambert invokes the principle according to which the part cannot supposit for the whole to claim that '*falsum*' cannot supposit for *F simpliciter*; therefore, *F* says something that does not obtain, namely that it is false, and therefore it is false *simpliciter*. The *restrictio* approach, cast in terms of *secundum quid et simpliciter*[24] or not, was indeed very popular for quite some time, in any case until the sharp criticism addressed against it by Bradwardine.

Finally, Scotus' solution in some senses resembles Faversham's, but Scotus introduces a theoretical sophistication, namely the distinction between *actus significatus* and *actus exercitus*—a distinction widely used in contexts other than the *insolubilia* literature as well[25]—to account for the *quid* with respect to which a Liar sentence is true *secundum quid*, while being false *simpliciter*. The interest of Scotus' solution is to show that the *secundum quid et simpliciter* framework can be combined with other concepts, in particular concepts determining the aspects in which something is said *secundum quid* and/or/not *simpliciter*. According to Scotus, in the case of *'ego dico falsum'*, the *actus significatus* is what is signified by the proposition, in this case the act of saying a falsehood, while the *actus exercitus* is what is accomplished by the speaker (its performative dimension).[26] The speaker says that he says a falsehood, and indeed he says a falsehood, thus he performs a true *actus exercitus*.[27] Therefore, this proposition is true *secundum quid*, i.e. with respect to the *actus exercitus*, but it is false *simpliciter*, because it is a 'sign of the false', that is, what it signifies is false.[28]

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[20] Simon of Faversham, *Quaestiones super Libro Elenchorum*, p. 167: "qui dicit se dicere sicut dicit, verum dicit."

[21] T. Bradwardine, *Insolubilia*, ed. S. Read (Dallas Medieval Texts and Translations, Leuven, 2008), §2.2. (An earlier but unreliable text is found in M.-L. Roure, 'La problématique des propositions insolubles au XIII^e siècle et au début du XIV^e, suivie de l'édition des traités de W. Shyreswood, W. Burleigh et Th. Bradwardine', *Archives d'histoire doctrinale et littéraire du Moyen Age* 37 [1970], 205-326.)

[22] See Simmons, *Universality and the Liar*, p. 90.

[23] Lambert of Auxerre. Extracts from his *Logica*, in L. Pozzi, *Il Mentitore e il Medioevo* (Parma, 1987), pp. 112-115. There is also a complete but unreliable edition of Lambert's *Logica*: Lambert of Auxerre, *Logica*, ed. F. Alessio (Florence, 1971).

[24] Indeed, the mereological interpretation of *secundum quid et simpliciter* fits in quite nicely with the idea of restriction of supposition—see Simmons, *Universality and the Liar*, §5.2.2.

The interpretation of Scotus' solution is still a controversial matter. Spade downplays the importance of the *secundum quid et simpliciter* distinction for Scotus,[29] and interprets the *actus exercitus / actus significatus* distinction as "committed to some kind of restriction on self-reference".[30] But it seems more natural to view the idea that more than one act is involved in asserting a proposition along the lines of Aristotle's (dis)obedient man: if he obeys one specific command, he is merely obedient *secundum quid* in the same way that a proposition that corresponds to a true *actus exercitus* is true only *secundum quid*. Moreover, when mentioning a distinction similar to the *actus exercitus / actus significatus* distinction in his treatise,[31] Bradwardine classifies it among the *distinguentes*, i.e., those that try to solve the Liar paradox by saying that it should be distinguished, that it is prone to more than one reading. Bradwardine reproaches the *distinguentes* for not solving the insoluble according to the fallacy *secundum quid et simpliciter* (eighth and last opinion in Bradwardine (*Insolubilia*) ch. 5). It is unlikely, though, that Bradwardine had Scotus in mind in this passage, as his description does not fit in well with Scotus' text; Scotus himself recognizes that using the *actus exercitus* vs. *actus significatus* distinction with respect to Liar sentences is not a theory of his own creation, so Bradwardine may be referring to other uses of the distinction—since Scotus obviously intends his solution to be related to the fallacy *secundum quid et simpliciter.*

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[25] See G. Nuchelmans, 'The Distinction *Actus Exercitus/Actus Significatus* in Medieval Semantics', in *Meaning and Inference in Medieval Philosophy*, ed. N. Kretzmann (Dordrecht, 1988); I. Rosier, 'La distinction entre *actus exercitus* et *actus significatus* dans les sophismes grammaticaux du Ms. BN lat. 16618 et autres textes apparentés', in *Sophisms in Medieval Logic and Grammar*, ed. Read; and I. Rosier, *La parole comme acte. Sur la grammaire et la sémantique au XIII^e siècle* (Paris, 1994), chap. 5.

[26] One could illustrate this distinction with examples of other performative contradictions. If someone asks 'Is there anybody there?', and someone else replies 'No', the *actus significatus* is to say that there isn't anybody there, but the *actus exercitus* is to indicate that there is indeed somebody there—again a false *actus significatus* but a true *actus exercitus*.

[27] "Et quidam ponunt quod est verus secundum quid, quia vere exercet actum dicendi circa orationem falsam." Scotus, *Quaestiones super Librum Elenchorum Aristotelis*, q. 53 (p. 514, 14-15).

[28] "Quod autem sit falsitas simpliciter, patet per hoc quod oratio dicitur falsa quia est signum falsi. Sed haec est huiusmodi 'ego dico falsum', cum nihil prius dixerit, et est signum falsi." Scotus, *Quaestiones super Librum Elenchorum Aristotelis*, q. 53 (p. 514, 8-10).

[29] He mentions it only in a footnote rather than in the main text in *Insolubles* §2.3.

[30] Spade, *Insolubles* §2.3.

[31] He distinguishes *dicere exercitum* from *dicere conceptum*: Bradwardine, *Insolubilia* §5.8.

In sum, the fact that these authors all use the concepts *secundum quid et simpliciter* and yet present quite different accounts of insolubles does not mean, we take it, that their solutions are not faithful to the original *secundum quid* framework. They are all variations of Aristotle's original idea that some propositions may be true *secundum quid* while false *simpliciter.*

4. Bradwardine and the Liar

Thomas Bradwardine was a Regent Master in Arts at Oxford in the early 1320s. It was at this time that he composed his logical masterpiece, *De Insolubilibus*, as testified by the Madrid ms.: "*Expliciunt Insolubilia magistri Thome de Bradwardyn de anglia regentis Oxonii.*"[32] After five chapters surveying and dismissing eight other current diagnoses of the insolubles, primarily that of the *restringentes terminorum* (that no term can stand for itself or anything of which it is part), Bradwardine presents his own, apparently novel, diagnosis, set out lucidly in a proof of his Thesis 2 (*secunda conclusio*), established on the basis of two definitions and six postulates:

> If some proposition signifies itself not to be true or itself to be false, it signifies itself to be true and is false.[33]

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[32] Madrid, Bib. Nov. Univ. Cent., MS 105 f. 37rb; J. A. Weisheipl, 'Ockham and some Mertonians', *Medieval Studies* 30 (1968), 163-213, p. 190 describes the MS as "now lost". Fortunately, it is still to be found in the Historical Library of the Complutense University in Calle Noviciado in Madrid.

[33] Bradwardine, *Insolubilia* §6.4: "si aliqua propositio significet se non esse veram vel se esse falsam, ipsa significat se esse veram et est falsa."

His argument is articulated in detail and at length. We can summarise it concisely as follows:

Suppose *A* says of itself that it is not true or that it is false (and so not true, by Postulate 1: Bivalence). It may signify more: abbreviate that as *Q*, and suppose *A* is not true. Then by Definition 1 ("A true proposition is one signifying only as things are"), things are not as it signifies, that is, either it's true or not-*Q*. So if *A* is not true then either not-*Q* or *A* is true, in other words, if *A* is not true and *Q* then *A* is true. But by hypothesis, that *A* is not true and *Q* is what *A* signifies. So by Postulate 2 ("Every proposition signifies whatever follows from what it signifies"), *A* signifies that *A* itself is true. So *A* signifies (at least) that *A* is true and that *A* is not true. But that conjunction is impossible, so something *A* signifies must fail to obtain. Hence, by Definition 1 again, *A* is not true, and so by Bivalence (Postulate 1), *A* is false.

We've run together a number of steps in the argument here, where Bradwardine adduces Postulates 3-6, Definition 2 and Thesis 1. We've also applied a strong dose of charity to the interpretation of Postulate 2, which plays an essential role in the proof. What we actually read in the mss. is:

> Every proposition signifies or means as a matter of fact or absolutely <respectively> everything which follows from it as a matter of fact or absolutely.[34]

Spade takes this literally,[35] and accordingly has to rewrite the proof of Thesis 2, claiming that some steps Bradwardine makes are redundant and others need a new principle, that "whatever a [proposition] signifies follows from it" (the 'Converse Bradwardine Principle', CBP), matching the 'Bradwardine Principle', BP: "A [proposition] signifies or denotes whatever follows from it." Spade goes on to show that CBP is a disaster for Bradwardine.[36] But even BP leads to paradox. For consider the standard reasoning about the Liar, *L*, which says of itself that it is not true:

> First, suppose *L* is true. Then things are as it says they are, so *L* is not true; so by *reductio*, *L* is not true.
>
> But, secondly, given that *L* is not true (as we have just proved), then things are indeed as *L* says they are, so *L* is true. Contradiction.

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[34] Bradwardine, *Insolubilia* §6.3: "Quelibet propositio significat sive denotat ut nunc vel simpliciter omne quod sequitur ad istam ut nunc vel simpliciter."

[35] Spade, '*Insolubilia* and Bradwardine's theory of signification', p. 120.

[36] Spade, '*Insolubilia* and Bradwardine's theory of signification', pp. 128ff.

Bradwardine's decisive contribution is to block the second move here. By Definition 1, it is not enough for *L* to be true that *L* not be true. Things must be *wholly* as *L* says they are, and by Thesis 2, *L* also says that *L* is true. But on Spade's rewriting of the proof of Thesis 2,[37] Bradwardine must prove that if *A* is not true then *A* is true, to apply BP (and conclude that *A* says that *A* is true). But that last conditional is all that is needed for the second leg of the standard proof—having shown in the first leg (accepted by Bradwardine) that *L* is not true, to land in paradox by inferring that consequently *L* is true.

What we need to do, then, is see how Bradwardine actually uses Postulate 2 in his proof. The conditional to which he applies it (see above) is 'if *A* is not true and *Q* then *A* is true'. *Q* abbreviates whatever else *A* might say, which we are about to discover includes *A*'s being true. So all we have is the jejune conditional: 'if *A* is not true and *A* is true (etc.), then *A* is true'. That suffices to conclude that *A* says of itself that it is true; but it is not enough to retrieve the second leg of the proof of paradox. That is why Bradwardine's solution works and does not collapse in the usual contradiction, as Spade claims it does.

Bradwardine's proof does not use BP. What it uses is the more cautious principle: every proposition signifies whatever follows from what it signifies. Bradwardine repeats the demonstration of Thesis 2 in many variants in later chapters, and every time this is the principle he uses. Sadly, he was uncharacteristically lax in his statement of Postulate 2, but charity (is there an interpretation which does not land him in paradox?) and attention to his actual proof(s) support attribution to him of the more cautious but effective principle.

5. Bradwardine's Theory of Consequence

Postulate 2 warrants closer examination. It speaks of "whatever follows from a proposition *ut nunc vel simpliciter*". What does this mean? It claims that what does so follow is in fact already signified by that proposition. This is an extremely strong closure condition, that signification is closed under consequence. In fact, including *ut nunc* consequences makes the claim that much stronger. For *ut nunc* consequence allows the use of merely contingently true enthymematic premises. Suppose, e.g., that only an ass is running. Then from 'Every man is running' we can infer 'Every man is an ass' *ut nunc*, by a syllogism in Barbara. The premise is possible and the conclusion impossible. Yet

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[37] Spade, '*Insolubilia* and Bradwardine's theory of signification', p. 122.

Aristotle noted that the impossible never validly follows from the possible—that is what 'possible' means.[38]

This criticism of the notion of *ut nunc* consequence comes from a treatise on consequence ('*Textus consequentiarum*') attributed to Bradwardine. The editor, Niels Green-Pedersen, adduces, but is unmoved by, all the arguments which, put together, should rule out the possibility that the work is by Bradwardine. The treatise is a sustained critique of Ockham's *Summa Logicae*, which given Bradwardine's association with Burley's school, gives some plausibility to its attribution to him in one of the two mss. in which it survives. (It is anonymous in the other.) But in the course of that attack on Ockham, its author repeatedly dismisses *ut nunc* consequence as mistaken: "*Nihil est consequentia ut nunc*."[39] In contrast, in Bradwardine's treatise on insolubles, *ut nunc* consequence is central and pervasive. Consider, e.g., Bradwardine's proof of Thesis 1 (*prima conclusio*) in ch. 6, which he will adduce time and time again:

> Every proposition whose extreme has many supposita signifies or denotes affirmation or denial for some of them, and if only one, for it.[40]

Take such a proposition, '*A* is *B*', he says, where the term '*A*' has many supposita:

> Then the two terms, *A* and 'one of these', pointing to all its supposita, are equivalent as a matter of fact (*ut nunc*), and neither of them adds denial or exclusion or anything of that kind to the other, and so these two propositions are equivalent: '*A* is *B*' and 'One of these is *B*'; and 'One of these is *B*' signifies an affirmation for one of the supposita of *A*, and hence so too does '*A* is *B*'. Again, *A* and 'this *A* or that, and so on' are equivalent as a matter of fact. Hence these propositions are equivalent as a matter of fact: 'This *A* or that and so on, is *B*' and '*A* is *B*'.[41]

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[38] *An. Pr.* I, 32a19-20.

[39] N.J. Green-Pedersen, 'Bradwardine(?) on Ockham's Doctrine of consequences: an edition', *Cahiers de l'Institut du Moyen-Age Grec et Latin* 42 (1982), 85-150, p. 93 §8.

[40] Bradwardine, *Insolubilia* §6.4: "Quelibet propositio cuius extremum multa habet supposita significat sive denotat affimationem vel negationem pro aliquo istorum, et si unicum pro isto."

[41] Bradwardine, *Insolubilia* §6.5.1: "Tunc isti duo termini convertuntur ut nunc: a et aliquod illorum demonstratis omnibus suis suppositis, et neutrum addit negationem nec exclusionem nec huiusmodi super alium, ergo iste due propositiones convertuntur: a est b et aliquod istorum est b, et per istam: aliquod istorum est b, significatur affirmatio pro aliquo supposito a, ergo et in ista: a est b. Ad idem isti termini convertuntur ut nunc: a et hoc a vel illud et sic de singulis. Ergo et iste propositiones convertuntur ut nunc: hoc a vel illud, et sic de singulis est b, et a est b."

And similar proofs run through succeeding chapters.

Green-Pedersen notes this incompatibility between the doctrines in the two works, though we think he fails to appreciate how central *ut nunc* consequence is to the *Insolubilia.* He suggests, therefore, that their supposed common author changed his mind.[42] Perhaps, he says, the treatise on consequence is an early work and Bradwardine later came to endorse consequence *ut nunc.* This is a non-starter, for the *Insolubilia* is an early work too. Weisheipl, noting the Madrid description of Bradwardine as "*regentis Oxonie*", mentioned above, attributes this period to 1321-4. Dolnikowski[43] extends it to 1326. But Ockham's *Summa Logicae* was written only in 1323, so the *Textus Consequentiarum* can be no earlier than that. The two works are almost simultaneous, and it seems very unlikely that the *Textus Consequentiarum* is by Bradwardine.

In fact, in the *Insolubilia* Bradwardine answers the criticism of *ut nunc* consequence from the *Textus Consequentiarum*:

> There will by chance be made a captious objection, supposing that only an ass were seated,... then this inference would be valid: a man is sitting, therefore a man is an ass, and the premise is possible, hence so is the conclusion.[44]

But this is readily answered, he says:

> It is true that this inference is valid as a matter of fact, because as a matter of fact the conclusion is understood in the premise. For these are equivalent as a matter of fact: 'A man is sitting' and 'A man is this sitter or that and so on for things sitting'.[45]

In fact, he says, Aristotle's rule applies only to absolute consequence (*consequentia bona et simpliciter*), as this counterexample shows.

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[42] Green-Pedersen, 'Bradwardine(?) on Ockham's Doctrine of consequences', p. 88.

[43] E. W. Dolnikowski, *Thomas Bradwardine: a View of Time and a Vision of Eternity in Fourteenth-Century Thought* (Leiden, 1995), p. 4.

[44] Bradwardine, *Insolubilia* §6.5.3-4: "Huic autem conclusioni instabit forte cavillator, supponens quod tantum asinus sedeat, (...) tunc ista consequentia est bona: homo est sedens, ergo homo est asinus, antecedens est possibile, ergo et consequens."

[45] Bradwardine, *Insolubilia* §ad 6.5.4: "verum est quod ista consequentia est bona ut nunc, quia ut nunc consequens intelligitur in antecedente. Ista enim convertuntur ut nunc: homo est sedens et homo est hoc sedens vel illud et sic de singulis sedentibus."

6. *Secundum quid* Vindicated

Bradwardine lays great store by the claim that his theory is truly Aristotelian. Not only does he dismiss other theories (namely, two of four versions of the theory of the *restringentes*, that the part cannot stand for the whole, and that of the *distinguentes*, distinguishing the utterance in act from its completion) for not assigning a fallacy *secundum quid et simpliciter* to the insolubles. He repeatedly claims that he is spelling out Aristotle's true diagnosis. This comes out most forcefully in ch. 7, in an extended treatment of the problem of revenge.

The term 'revenge' was coined by R. Martin[46] to describe the puzzling situation where a theorist wants to describe the Liar sentence (for example) as false, or meaningless, or not true, or whatever, when the sentence itself appears to say just that, that it is false, meaningless or whatever. If the theorist is right so to describe the Liar, and is speaking truly, why does it not follow that the Liar sentence itself is true, and not false, meaningless or whatever?

This is the situation Bradwardine sets up in ch. 7. Suppose Socrates utters only this:

> *A*: Socrates utters a falsehood.

Bradwardine wants to say that Socrates utters a falsehood—that *A* is false follows from Thesis 2, given that *A* signifies (*ut nunc*) that it is false. But if the diagnosis is true when Bradwardine says it, why was it not true when Socrates said it? After all, their two utterances were exactly the same—same words in the same order.

The answer is central to Bradwardine's solution: what Socrates says is self-referential, but what Bradwardine says is not. Finally, Bradwardine comes to the eleventh objection:

> The eleventh objection is this: from the response just given, it follows that the following inference is valid: Socrates utters this falsehood, namely, 'Socrates utters a falsehood', so Socrates utters a falsehood. Hence there is here no fallacy *secundum quid et simpliciter*, contrary to Aristotle's *Soph. Elench.* 2, in the chapter on the solution of the fallacy *secundum quid et simpliciter*, where it is shown by him that insolubles are paralogisms *secundum quid et simpliciter*. Moreover, then in such inferences there would not be an insoluble because it is not a difficult paralogism, yet that is the definition of insoluble.[47]

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[46] R.L. Martin, *Recent Essays on Truth and the Liar Paradox* (Oxford, 1984), p. 4.

[47] Bradwardine, *Insolubilia* §7.11: "Undecimo sic: ex ista responsione sequitur istam consequentiam esse bonam: Sortes dicit hoc falsum quod est Sortes dicit falsum, ergo Sortes dicit

Bradwardine's reply to this objection is that *A* signifies more than does the equiform judgment that *A* is false. For since *A* is self-referential, it falls under Thesis 2 and so also signifies that it is true. Indeed, suppose Socrates himself reasons as follows, in his mind: he apprehends just two propositions:

> *B*: This falsehood is apprehended (*intelligitur*) by Socrates

referring to this proposition:

> *C*: A falsehood is apprehended by Socrates

If Socrates is tempted to infer *C* from *B*, he will have committed a fallacy *secundum quid et simpliciter*. For *B* entails only part of *C: C* signifies that *C* is both true and false (and apprehended by Socrates), but *B* signifies only that *C* is false and apprehended by Socrates. So *B* entails *C secundum quid* but not *simpliciter*. We now see the answer to Aristotle's puzzle (180*b*3-4) in §2 above. *B* is true while *C* is false, so *C* follows from *B* in so far as it says that it is true but not in so far as it says that it is false.

Finally, consider Bradwardine's discussion in ch. 11 of "merely apparent insolubles". They might appear to be insolubles, but their solution does not turn on a fallacy *secundum quid et simpliciter*, so they are not real insolubles. For example, suppose nothing is referred to, and argue:

> Nothing is referred to
> So this is not referred to,

referring to Socrates. Clearly, the premise was true when it was uttered,[48] but it was falsified once the inference was complete. So the conclusion can never be true, even though the premise can be. Bradwardine's conclusion is an insight which has been widely attributed to Buridan some years later:

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falsum. Ergo ibi non est fallacia secundum quid et simpliciter, quod est contra Aristotelem 2° Elenchorum, capitulo de solutione fallacie secundum quid et simpliciter, ubi apparet per eum quod insolubilia sint paralogismi secundum quid et simpliciter. Preterea tunc in talibus consequentiis non esset insolubile quia non est ibi difficilis paralogismus quod tamen est de diffinitione insolubilis."

[48] Bradwardine, *Insolubilia* §11.6: "Dicendum quod minor est falsa, quia, quando consequens illius consequentie est, antecedens falsificatur pro demonstrato in consequente, licet fuerit verum ante prolationem consequentis."

> Because a proposition is not said to be possible or impossible according to whether it can or cannot be true, but on account of whether things can be or cannot be as is signified by it.[49]

7. Conclusion

Thus, as Bradwardine says, an insoluble is "a difficult paralogism *secundum quid et simpliciter* resulting from the reflection of some act on itself with a privative determination".[50] A fallacy *secundum quid et simpliciter* occurs when a fallacious inference is made from a premise to a conclusion where a property is wrongly attributed to something *simpliciter* whereas, from the premise alone, only the *secundum quid* attribution of this property to the thing can be inferred. To solve the insolubles what we need to do is block the reasoning in the second leg of the standard argument, what is in effect the problem of revenge: having shown that the puzzle case is false, we must show why it does not follow from that, that it is true. The answer is that it is true in part, but only in part, and partial truth is not truth *simpliciter.*

For a proposition to be true, everything it signifies must obtain—things must be *wholly* as it says they are. Truth is a limit or peak of success; any falling off from it is failure. A proposition is true if things are only as it says they are; if things are not so in any respect, it is false. This is why, according to Aristotle's undeveloped hunch, it is possible for a proposition to be true *secundum quid* while false *simpliciter* (but not the other way round); this happens when at least one of the things it says obtains, but not all of them, which makes it a proposition true *secundum quid* (with respect to the particular thing that obtains), but false *simpliciter.* A Liar sentence is precisely a proposition of this kind, and the cause of its paradoxical nature is the fallacious move from its falsity to its truth *simpliciter*; it is only its truth *secundum quid* that can be derived, thus confirming that it is false *simpliciter.* Hence, Spade's claim that invocations of this fallacy with respect to *insolubilia* are purely honorary seems fundamentally ungrounded.

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49) Bradwardine, *Insolubilia* §11.6: "quia propositio non dicitur possibilis vel impossibilis quia potest vel non potest esse vera, sed quia sic potest esse vel sic impossibile est esse sicut significatur per istam." Cf. Buridan, *Summulae de Dialectica*, tr. 9 (*Sophismata*), ch. 8, 'Third Conclusion', pp. 954-5.

50) Bradwardine, *Insolubilia* §2.1: "insolubile est difficilis paralogismus secundum quid et simpliciter ex reflexione alicuius actus supra se cum determinatione privativa proveniens."

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The Theory of *materia prima* in Marsilio Ficino's *Platonic Theology*[*]

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Abstract
This paper is an examination of the theory of *materia prima* of the fifteenth century Platonist Marsilio Ficino. It limits its discussion of Ficino's theory to the ontological and epistemic status of prime matter in his *Platonic Theology*. Ficino holds a "robust" theory of prime matter that makes two fundamental assertions: First, prime matter exists independent of form, and second, it is, at least in principle, intelligible. Ficino's theory of prime matter is framed in this paper with a discussion of the divergence among Scholastic philosophers over the nature of prime matter.

Keywords
Marsilio Ficino, matter, prime matter, Platonism

I

Frequently in his philosophical masterpiece, the *Platonic Theology* (1482), the Renaissance Platonist Marsilio Ficino (1433-99) speculates about the existence of an utterly formless and passive *materia prima* that functions as the "indifferent receptacle" of all material things. Although Ficino asserts that prime matter is devoid of all quality, and despite his denial that the human mind can have any direct and privileged knowledge of it, he does not, for these reasons, conclude that prime matter is nothing, or some fictive abstraction that has no reality apart from the human mind, as Aristotle had likely maintained.[1] To the contrary, Ficino held in the *Platonic Theology* what may be

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[1] Aristotle, *Metaphysics*, 7.3, 1028b-1029a28.

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called a "robust" theory of prime matter. On the robust view, prime matter participates in a mode of existence that belongs uniquely to those things that are created by God directly from nothing, and it exists in such a way that it possesses in a confused and tumultuous state the rudimentary forms of all material things. The existence of prime matter, according to Ficino, is not dependent upon the existence of anything else, such as the actuality of forms, or on form-matter composites, as some philosophers had previously argued. The robustness of prime matter also has epistemological implications for Ficino. In the *Platonic Theology*, Ficino suggests that the infinite confusion of prime matter is, at least in principle, intelligible, even if the human mind will never know it directly, or with clarity and distinctness.

This paper is an examination of the basic ontological and epistemic status of prime matter in Ficino's *Platonic Theology*. The concept occupies a prominent and varied position in the larger argument of the *Platonic Theology*, serving at one and the same time as a premise in Ficino's argument for the immortality of the soul, as part of his refutation of the materialism of the "*impii duo*" Epicurus and Lucretius (among others), and as part of the groundwork for his vitalistic natural philosophy. In this paper Ficino's theory is framed with a discussion of the divergent theories of prime matter that were held by Dominican and Franciscan Scholastic philosophers in the thirteenth and fourteenth centuries. The divergence concerned the ontological and epistemic status of prime matter. Thomas Aquinas, who belonged to the Dominican order, argued that prime matter does not exist without form, and is completely unintelligible on its own. Several Franciscan philosophers, such as John Duns Scotus and William of Ockham, attributed a greater degree of reality to prime matter than Aquinas did.[2] Framing Ficino's theory in this way serves two purposes: First, it opens up a way of approaching the theory of prime matter in the *Platonic Theology*, and to determine the general theoretical commitments on prime matter's existence and intelligibility. Approaching the theory of prime matter in this way is especially helpful because his theory, and the general function that it performs in his philosophy, have remained mostly unnoticed and unexamined.[3] Also, although Ficino makes frequent use of the concept of prime matter in the *Platonic Theology*, he nowhere straightforwardly defends his view of it. Instead, Ficino reveals features of his theory elliptically and in various philosophical contexts across the eighteen books of the *Platonic Theology*. Second, by determining where Ficino stands on the ontological and epistemic status of matter, his relationship to Medieval Scholasticism is complicated, if not clarified. Ficino scholars have traditionally argued that Thomas Aquinas exercised the most powerful influence on the Scholastic elements of Ficino's philosophy, and it has been argued and assumed that Ficino's theory of prime matter is fundamentally Thomistic.[4] Recognizing the plurality of Scholastic theories undermines the belief that Ficino was a Thomist when it comes to matter. While a discussion of Scholastic theories of matter certainly does not exhaust Ficino's philosophical inheritance on the issue, approaching it in this way is a convenient point of entry to examining Ficino's general theoretical commitments on prime matter. Certainly elements of the Neoplatonic tradition of Plotinus are also significant. Ficino argues with Plotinus that prime matter is completely impassible; however, he departs from Plotinus in attributing a robust and entitative reality to prime matter.

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[2] See Thomas Aquinas, *De principiis naturae*, Chs. I and II. Also see John Duns Scotus, *Lectura* 2. 12; and *Opus Oxoniense, lib.* II, *d.* 12, *q.* 1. Bonaventure, also a Franciscan, argued for the reality of prime matter. See *In II. Sent.*, d. 12, art. 1, q. 1, 2 and 3. Bonaventure, however, also held a doctrine of seeds which Scotus and Ockham denied.

[3] While Ficino's views of prime and corporeal matter have remained for the most part unexamined, two recent articles have touched on aspects of it. See Hiroshi Hirai, "Concepts of Seeds and

An examination of the underlying concept of prime matter that is at play in the *Platonic Theology* reveals that the Florentine Platonist in fact parted ways with Thomas Aquinas when it came to the existence and intelligibility of prime matter. In the end, Ficino's theory shares more in common with those philosophers and theologians who attributed an entitative reality to prime matter. To this end, this paper examines the arguments that Ficino gives for prime matter's existence in the *Platonic Theology*, and the two distinctions that Ficino marks throughout the work, which are relevant to grasping the basics of his theory: First, Ficino distinguishes between the absolute and particular modes of existence; and, second, between prime and corporeal matter, where the former participates in the absolute mode of existence and the latter the

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Nature in the Work of Marsilio Ficino," in *Marsilio Ficino: His Theology, His Philosophy, His Legacy*, eds. M. Allen, V. Rees, with M. Davies (Leiden, 2002), 257-284; and, in the same volume, Sergius Kodera, "Narcissus, Divine Gazes and Bloody Mirrors: The Concept of Matter in Ficino," 285-306. Neither article, however, deals directly with Ficino's theory of prime and corporeal matter.

[4] See the introduction to Ardis B. Collins, *The Secular is Sacred: Platonism and Thomism in Marsilio Ficino's Platonic Theology* (Nijhoff, 1974); Paul Oskar Kristeller, "Thomism in Italian Thought," in *Medieval Aspects of Renaissance Learning* (Durham, NC, 1974), 29-94; Kristeller, "Marsilio Ficino and His Circle," in *Studies in Renaissance Thought and Letters* (Roma, 1956), 39; and Michael J. B. Allen's and James Hankins' introduction to the recent translations of Marsilio Ficino's *Platonic Theology* (Cambridge, 2001), xi.

particular. Finally, the paper concludes with an explanation of the general function that matter theory performs in Ficino's *Platonic Theology*, and with speculations on the philosophical and theological motivations that ground Ficino's robust theory of prime matter.

II

The Aristotelian analysis of material things into their form, matter and privation was the dominant framework for conceptualizing material things by Scholastic natural philosophers, and it was not fully replaced until the development of modern mechanistic philosophies in the seventeenth century.[5] It was also the framework that Marsilio Ficino mostly inherited from the Scholastics and that he employed in his *Platonic Theology*.[6] On this analysis of material things, the form of a substance is the principle of organization, the matter the subject in which the form inheres, and the privation is the form that the thing lacks. The matter of a given thing is relative to the level of organization that is under consideration, since a piece of bronze, which is not without its own form and matter, serves at the same time as the matter of a statue, which is yet another level of organization.[7] The most fundamental matter, that is, the matter that is thought to be beneath all levels of organization, has traditionally been called "prime matter" by philosophers in both the Platonic and Aristotelian philosophical traditions.[8] Prime matter serves as the ultimate subject of all forms, and it was thought to be conserved in the process of substantial change, such as when one element is corrupted and a new one is generated.

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[5] On alternative theories of matter in the Medieval period, see *Atomism and its Place in Medieval Philosophy*, ed. Robert Aurelien (Leiden, 2007).

[6] For an account of Ficino's basic ontology, see Michael J. B. Allen, "Ficino's Theory of the Five Substances and the Neoplatonists' *Parmenides*," *Journal of Medieval and Renaissance Studies* 12:1 (Spring, 1982). For documents pertaining to Ficino's Scholastic background, see Ficino's "Incipit Tractatus Physicus" and "Tractatus Physicus Marsilii" in Paul Oskar Kristeller's "Marsilio Ficino and His Circle," in *Studies in Renaissance Thought and Letters*, Vol. I (Roma, 1956), 60-64 and 74-76. For a discussion of Ficino's Scholastic education, see James Hankins, *Plato and the Italian Renaissance*, Vol. I (Leiden, 1996), 271-276; Paul Oskar Kristeller, *Marsilio Ficino and His Work After Five Hundred Years* (Firenze, 1987), 6-7; and Jonathan Davies, *Florence and Its University During the Early Renaissance* (Leiden, 1998), 21-22.

[7] See Book I of Aristotle's *Physics* for a general account of his views on form, matter and privation. At *Physics*, II.2, 194b9, Aristotle explains how matter is relative to the level of organization that is under consideration.

[8] See Richard Sorabji's *Matter, Space and Motion: Theories in Antiquity and Their Sequel* (London, 1988) for a discussion of theory of prime matter held by the commentators on Aristotle; also see relevant sections of Volumes 2 (Physics) and 3 (Metaphysics), of Richard Sorabji's *The*

While there was general agreement among Scholastic philosophers that material substances have as their principles matter, form and privation, there was no general consensus about the precise nature of prime matter itself. The Thomistic theory was not the only theory of prime matter. There existed in the thirteenth and fourteenth centuries a plurality of theories of prime matter that were held by various Scholastic philosophers from diverse theological orders and traditions. The different theories made divergent claims about the prime matter's existence and the degree to which it is intelligible, if at all. The disagreement depended on the degree of reality that one attributed to prime matter: Is matter a thin and spectral entity that is dependent upon the reality of other things for its own qualified and partial existence, or is it more robust in its nature, such that it may exist on its own, and may even be known? Thomas Aquinas held something along the lines of the first position. He argued that prime matter is a qualified entity that exists as a theoretical category in the metaphysics of material things, and as part of actual form-matter composites. Further, he argued that prime matter is completely unintelligible on its own. On the other hand, philosophers who belonged to the Franciscan tradition—such as Saint Bonaventure, John Duns Scotus and William of Ockham—generally attributed a greater degree of reality to prime matter than Thomas Aquinas did.

Aquinas made two distinctive assertions about prime matter.[9] First, Aquinas held that prime matter exists only potentially on its own, without form, but exists as an actuality only on account of being part of a form-matter composite.[10] He viewed prime matter as possessing a partial or incomplete existence

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Philosophy of the Commentators 200-600 AD (London, 2004) for selections from Neoplatonic philosophers, and the commentators, on prime matter.

[9] Aquinas actually makes four basic assertions about prime matter in *De principiis naturae*, and in other discussions of matter. In addition to the two assertions examined above, Aquinas also argues for the unity of matter. Matter is one through being undifferentiated. Second, prime matter was created by God directly from nothing. Prime matter is not generated or corrupted in the course of natural change, but is conserved. For a general discussion of Thomas Aquinas' view of matter, see John F. Wippel, *The Metaphysical Thought of Thomas Aquinas: From Finite Being to Uncreated Being* (Washington, 2000), 295-375; and Robert Passnau, *Thomas Aquinas on Human Nature: A Philosophical Study of Summa theologiae 1a, 75-89* (Cambridge, 2002), 40-45.

[10] *Sententia super Metaphysicam*, VII.2.1289-1292.

that is parasitic on the actuality of material things, that is, on the existence of actual form-matter composites. Prime matter has no act that pertains to its own essence, and in virtue of which it would continue to exist in the absence of something that does, namely, form. In *De principiis naturae*, Aquinas concluded, therefore, that "matter exists incompletely of itself, needing something more in order to exist."[11] In *Summa contra Gentiles*, while contrasting the soul with prime matter, Aquinas states that "prime matter does not remain in act after the form's departure, except in relation to the act of another form," whereas the human soul does.[12] When a form is corrupted, then, the prime matter that was once its substrate does not continue to exist in actuality, according to Aquinas, unless another form immediately replaces the earlier one. The qualified existence that prime matter enjoys on this view also has significant epistemological implications. Second, Aquinas asserted that prime matter is only known indirectly by an analogy drawn with some form matter composite. Aquinas holds that any knowledge of prime matter is in itself perfectly inconceivable. Whatever knowledge one has of something, according to Aquinas, comes from a definition of its form, which implied that prime matter, strictly speaking, "can't be known or defined as such, but only [known] by an analogy" with the matter that belongs to the ordinary objects of our experience.[13] For instance, one reasons that just as bronze serves as the matter of a statue, so prime matter serves as the matter for all levels of organization. Concluding his discussion of prime matter in the early chapters of

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[11] Thomas Aquinas, *On the Principles of Nature*, in *Selected Philosophical Writings*, trans. and ed. Timothy McDermott (Oxford, 1993), 68.

[12] Thomas Aquinas, *Summa contra Gentiles*, Vol. 2, trans. James F. Anderson (Notre Dame, 1956), 264.

[13] Thomas Aquinas, *On the Principles of Nature*, 71. Here Aquinas is following Aristotle's position on the epistemic status of the substrate argued for at *Physics* I.7 191a8-13. Aristotle writes, "The underlying nature can be known by analogy. For as the bronze is to the statue, the wood to the bed, or the matter and the formless before receiving form to any thing which has form, so is the underlying nature to substance, i.e. the 'this' or existent." Aristotle, *Physics*, trans. R. P. Hardie and R. K. Gaye, in *The Complete Works of Aristotle* (Princeton University Press, 1984), Vol. I, 326. In *The Metaphysical Thought of Thomas Aquinas*, relying on Thomas' Commentary on I Sentences (d. 36, q.2, a. 3) and *Summa theologiae* I, q. 15, a.3, John F. Wippel argues that prime matter can also be known by a "kind of divine idea for prime matter" that is not distinct from the divine idea of the composite. Prime matter is known in this way insofar as it is realized together with the appropriate form. As far as human beings are concerned, however, prime matter can only be known by an analogy, and not in itself. John F. Wippel, *The Metaphysical Thought of Thomas Aquinas*, 325-327.

De principiis naturae, Aquinas says that "[n]othing actually existent then can be called prime matter."[14] Prime matter exists for Aquinas, therefore, in a qualified or thin sense, which is to say that it is something that functions as the ultimate material substrate of all things, but which does not subsist on its own. Further, in spite of our best efforts to bring it under some rational account, prime matter must forever remain in obscurity, both to the finite human intellect, and perhaps, by implication, even to the mind of God.

The Thomistic theory of prime matter was controversial in the thirteenth and fourteenth centuries.[15] Franciscan philosophers and theologians generally argued that prime matter possesses a more robust existence than Aquinas did. They claimed that prime matter is a reality all its own that is not dependent on the actuality of the form-matter composites for its existence, and they also argued against its ultimate unintelligibility. Based on what was understood as the dubious theological and philosophical implications of the Thomistic view, philosophers such as John Duns Scotus and William of Ockham assigned a greater degree of entitative reality to prime matter, thereby viewing matter in more robust terms.[16] The Thomistic view, it was generally thought, threatened God's omnipotence, since it implied that God was impotent to create prime matter without form. It was also thought that the Thomistic theory threatened God's omniscience, since it implied that God could not know prime matter. Before Aquinas, Saint Bonaventure argued that the pure receptivity of prime matter can be considered in itself through privation, that is, by stripping it of all form it is known to be an "intelligible darkness" (*tenebra intelligibilis*).[17] Bonaventure states that prime matter "is able to be considered by the soul according to its own essence and as wholly unformed."[18] Scotus argues that prime matter exists in actuality, and not just as the pure potentiality that resides in actual form-matter composites.[19] Also, inasmuch as prime matter is an actuality, Scotus argued that God can have an idea of it. The Dominican view, it was also argued by Ockham, was also philosophically flawed, since there was, in the end, no entity that is actually serving as the substrate of material forms at all.[20] It was therefore thought that there has to actually be something that is called "prime matter," retaining its identity over time, and which functions as the substrate of all material things.

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[14] Thomas Aquinas, *On the Principles of Nature*, 71.

[15] In the seventeenth century, John Milton, for instance, argues that creation *ex nihilo* is unintelligible. See Chapter VII of *The Christian Doctrine*, where Milton argues for his own "robust" view of matter that shares some features in common with Ficino's view. In *The Christian Doctrine*, Milton generally argues that matter is intrinsically good and was at one time prior to creation an actual substance that was confused and formless.

[16] See Allan Wolter, "The Ockhmisit Critique," in *The Concept of Matter in Greek and Medieval Philosophy*, ed. Ernan McMullin (Notre Dame, 1965), 124-146; and John F. Wippel, *The Metaphysical Thought of Thomas Aquinas*, 312-313.

[17] Bonaventure, *Commentarius in II librum Sententiarum*, d. 3, p. I, a. I, q. 2. Also see Christopher M. Cullen, *Bonaventure* (New York, 2006), 45-46.

[18] Quoted in Christopher M. Cullen, *Bonaventure*, 46.

Marsilio Ficino addresses both the ontological and epistemic status of prime matter in the *Platonic Theology*. It is argued in the sections that follow that Ficino's theory stands in stark opposition to the Thomistic theory as outlined above. Ficino makes certain basic assertions about prime matter's existence independent of form, and he suggests that it is in principle intelligible in itself, even if the human mind can come to know it only by an analogy with ordinary material things, and by a comparison of the levels of the hierarchy of being. At least in these two respects, therefore, Ficino diverges from Aquinas in his most basic understanding of matter, and instead aligns himself with the tradition of philosophers and theologians that asserted the reality of prime matter is philosophically and theologically superior. This tradition includes not only the Franciscan Scholastic philosophers, but also Plato, Plotinus, the pseudo-Egyptian sage Hermes Trismegistus, and Augustine, among others.

III

Scholars have traditionally noted a strong Thomistic presence in the Scholastic elements of Marsilio Ficino's philosophy and theology, especially in his *Platonic Theology*, as opposed to his commentaries on Plato's dialogues, among other works, which reflect the Neoplatonism of Plotinus and Proclus more prominently.[21] It has wrongly been asserted by Ardis B. Collins that the theory of prime matter that Ficino held in the *Platonic Theology* is largely Thomistic. Other interpreters, such as Paul Oskar Kristeller, have assumed that Ficino held a version of Aquinas' theory of matter. In general, detecting a Thomistic flavor to aspects of this work is certainly not without a strong justification. One need not look deeply in order to find Thomas Aquinas in the pages of the *Platonic Theology*, since Ficino declares that Aquinas is the "the splendor of Christian Theology" in the final book. Elsewhere he speaks of him affectionately as "our Thomas Aquinas."[22] Thomas Aquinas has also been a significant part of Ficino's biography, at least since the early sixteenth century. The *Summa contra Gentiles* is thought to have had a role to play in resolving a spiritual crisis that afflicted Ficino in the 1450s. Ficino's early sixteenth-century biographer, Giovanni Corsi, describes a period in Ficino's life in which he was afflicted with melancholy because had "strayed too far from the Christian thinkers" in his pursuit of ancient pagan philosophy.[23] Ficino was given a copy of the *Summa contra Gentiles* by the Archbishop of Florence, Antoninus, in order to give the young Platonist a successful model for the harmonization of pagan philosophy and Christian doctrine. Aquinas has been widely viewed as an antidote to Ficino's perceived paganism and heresy.[24]

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[19] John Duns Scotus, *Opus Oxon.* II, dist. 12, quest 1; *Quaestiones in Metaphysicam* 7, q.5; see especially Chapter 2 of Richard K. Cross, *The Physics of Duns Scotus: The Scientific Context of a Theological Vision* (Oxford, 1998), which contains a clear exposition of Scotus' arguments for the existence of matter, and its nature; as well as Peter King, "Scotus on Metaphysics," in *The Cambridge Companion to Duns Scotus*, ed. Timothy Williams (New York, 2002), 15-68.

[20] William of Ockham, *Summula philosophiae naturalis* I.1-15; *Espositio in libros Physicorum Aristotelis*, I.15.1-18.7; *Brevis summa libri Physicorum*, I.3. Allan Wolter, "The Ockhamist Critique," 128-31. André Goddu, *The Physics of William of Ockham* (Leiden, 1986), 95-107, 114-118; and "Ockham's Philosophy of Nature," in *The Cambridge Companion to Ockham*, ed. Paul Vincent Spade (New York, 1999), 147-149.

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21) There were two dominant interpretations of Marsilio Ficino's philosophy in the twentieth century. First, there was the systematic interpretation of Paul Oskar Kristeller, and, there was the interpretation of Frances Yates and Michael J. B. Allen that emphasized the more creative and Hermetic elements of Ficino's thought. The Hermetic interpretation is today the dominant interpretation. Michael J. B. Allen discusses these two approaches to Ficino's philosophy in "Paul Oskar Kristeller and Marsilio Ficino: *E Tenebris Revocaverunt*," in *Kristeller Reconsidered* (New York, 2006), 1-18. Christopher Celenza has argued that Kristeller was hostile to the Hermetic interpretation and considered it inferior to "true" philosophy. See Christopher Celenza, "Paul Oskar Kristeller and the Hermetic Tradition," also in *Kristeller Reconsidered*, 71-80, especially 74. Also see Chapter One of James G. Snyder's doctoral dissertation, "Matter and Method in the *Platonic Theology* of Marsilio Ficino," (The CUNY Graduate Center, 2008), for a discussion of the shortcomings of these two interpretations, especially when it comes to Marsilio Ficino's philosophy of nature.

22) Marsilio Ficino, *Platonic Theology*, Vol.6, trans. Michael J. B. Allen, text edited by James Hankins with William Bowen (Cambridge, Mass, 2002), 138-139. Kristeller, "Marsilio Ficino and His Circle," *Studies in Renaissance Thought and Letters*, 39, n. 15.

23) "The Life of Marsilio Ficino," in *The Letters of Marsilio Ficino*, Vol. 3 (London, 1985), 140.

24) Zanobi Acciaiuoli, an acquaintance of Ficino, claimed that Ficino often told him this story about St. Antoninus. On Ficino's "spiritual crisis," and Corsi's and Acciaiuoli's descriptions of it, see especially James Hankins, *Plato in the Italian Renaissance*, Vol. I (Leiden, 1990), 279-280,

Paul Oskar Kristeller argued that Aquinas exercised the most powerful Scholastic influence on the development of his philosophy.[25] In the first chapter of his seminal study, *The Philosophy of Marsilio Ficino*, Kristeller offers a brief exposition of Ficino's theory of matter that resembles the Thomistic theory in several salient respects. Kristeller explains that form occupies nearly the whole realm of being on its own for Ficino, and consequently that "matter is, so to speak, practically expelled from it."[26] Further aligning Aquinas and Ficino on the question of matter's existence, Kristeller explains that "[m]atter has no existence of its own. It merely has, in respect to each object, the equal possibility of being and of not being. Matter, therefore, is next to nothing and stands midway between Being and Nothing."[27] Although Kristeller does not mention Aquinas directly in this context, he does have in mind some non-controversial version of the Thomistic theory that he believes Ficino inherited.[28] In a later article titled "Thomism and Italian Thought," Kristeller argues that when one "penetrate[s] to the very heart of his [Ficino's] philosophy" in search of resemblances with Thomas Aquinas, one discovers, according to Kristeller, that among Scholastic philosophers, "Ficino obviously knew him

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and Vol. II, 454-459. See also P. O. Kristeller, "Per la biografia di Marsilio Ficino," reprinted in *Studies in Renaissance Thought and Letters*, Vol. I, 191-211.

25) Michael J. B. Allen has aptly noted that Kristeller developed a "feel" for Ficino as "a late scholastic philosopher with a tilt towards Franciscan theological positions and as an early Renaissance Neoplatonist" as a result of his near-total immersion in the *Platonic Theology* alone. While Kristeller thought that Ficino held some Franciscan theological positions, the same is not true for his metaphysics of nature. In this respect, Kristeller generally argued that Thomas Aquinas was the most important Scholastic influence on Ficino. See Michael J. B. Allen, "Paul Oskar Kristeller and Marsilio Ficino," in *Kristeller Reconsidered*, 9.

26) Paul Oskar Kristeller, *The Philosophy of Marsilio Ficino*, trans. Virginia Conant (New York, 1943), 39.

27) Paul Oskar Kristeller, *The Philosophy of Marsilio Ficino*, 39.

28) It is perhaps likely that Kristeller did not think that the question of matter was really of any deep concern to Ficino, since Kristeller's argues that the core of Ficino's philosophy lies elsewhere than in natural philosophy. In a 1945 article, "Ficino's Place in Intellectual History," Ernst Cassirer comments that in Ficino "we find no independent study of Nature. A philosophy of nature, in the sense in which one was later developed by thinkers of the Renaissance—by Cardano, Telesio, Patrizzi, Giordano Bruno—was unknown to Ficino." While Cassirer is correct to note that there is no independent investigation of matter in the *Platonic Theology*, it is not the case that there is not a natural philosophy worth speaking of in this work, which is what Cassirer implies. Ficino generally saw natural philosophy as a necessary step in the soul's ascent from the material to the immaterial realms. E. Cassirer, "Ficino's Place in Intellectual History," *Journal of the History of Ideas* 6(4) (1945), 489.

[Aquinas] better than the others."[29] Ardis B. Collins possibly makes the most ambitious case for Ficino's Thomism in his book *The Secular is Sacred: Platonism and Thomism in Marsilio Ficino's Platonic Theology.*[30] To make his case, Collins in the appendix juxtaposes passages from each text in order to demonstrate "that important sections of Ficino's work are completely dominated by Aquinas' influence."[31] Specifically with respect to Ficino's theory of matter, Collins argues that for Ficino the existence of prime matter "would contradict its nature."[32] Collins' book has been influential when it comes to the way in which scholars view Ficino's philosophical debt to Thomas Aquinas.[33]

It is undeniable that Thomism did have a deep and lasting impact on significant elements of Ficino's philosophy and theology. However, as Kristeller recognized, Ficino's Scholastic inheritance is a complicated matter. Because Ficino accepted certain Thomistic philosophical doctrines, and in spite of the fact that Ficino perhaps knew Aquinas best, it does not follow from this, given Ficino's general eclecticism, that he accepted his theory of matter.[34] That said, it is all too easy to smooth over subtle yet significant differences among Scholastic philosophers, and attribute most, if not all, Scholastic elements of

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[29] Paul Oskar Kristeller, *Medieval Aspects of Renaissance Learning: Three Essays by Paul Oskar Kristeller*, 74. Also see, Paul Oskar Kristeller "Marsilio Ficino and His Circle," in *Studies in Renaissance Thought and Letters*, 39. In this article, Kristeller also notes seven references to John Duns Scotus throughout Ficino's *Opera omnia.*

[30] Michael J. B. Allen has also argued that there are "extensive borrowings" from the *Summa contra Gentiles* in Marsilio Ficino's Commentary on Plato's *Philebus.* Michael J. B. Allen, *Marsilio Ficino: The Philebus Commentary* (Medieval and Renaissance Texts and Studies, 1975), 23-24.

[31] Ardis B. Collins, *The Secular is Sacred: Platonism and Thomism in Marsilio Ficino's Platonic Theology*, x.

[32] Ardis B. Collins, *The Secular is Sacred*, 45.

[33] In the introduction to the recent translations of the *Platonic Theology* by Michael J. B. Allen, as well as in the textual notes that accompany the translation. In the introduction to the recent English translation of the *Platonic Theology*, Allen and Hankins, echoing Collin's views on Ficino's Thomistic debt, assert that the *Platonic Theology* bears the influence of the second book on creation of the *Summa contra Gentiles*, and, they state that "[o]ccasionally Ficino took passages almost verbatim from Thomas' argumentation, and he was clearly interested in aligning sections of his work with that of the saint who was already emerging as the ultimate scholastic authority." Marsilio Ficino, *Platonic Theology*, Vol. 1, xi.

[34] Kristeller judiciously suggested a general caution in dealing with Ficino's Scholastic heritage in his *Eight Philosophers of the Italian Renaissance* when he writes that "lest we are tempted to call him [Ficino] a Thomist, we should remember that he came to side with Scotus against Thomas on one of the crucial issues dividing them, the question of whether the will or the intellect is superior." Paul Oskar Kristeller, *Eight Philosophers of the Italian Renaissance* (Stanford, 1964), 39-40.

Ficino's thought to Thomas Aquinas. The pre-eminent position that is today attributed to Thomas Aquinas among Medieval philosophers is in fact a post-Medieval, and even a post-Renaissance development.[35] Although Aquinas may have been emerging as the pre-eminent Scholastic authority in fifteenth century Florence, Ficino does not hesitate to diverge from Aquinas on significant philosophical and theological matters; in fact, in late fifteenth century Italy, it has been argued that Scotist metaphysics was viewed as philosophical and theologically superior to Thomistic metaphysics, especially, ironically, when it came to demonstrating the immortality of the soul.[36] While the attribution of a Scholastic doctrine found in Ficino's *Platonic Theology* to Aquinas may in many cases be justified, there are special cases, such as with his theory of prime matter, where it is not. It will be argued below, that Ficino clearly does not accept Aquinas' theory of prime matter, and opts instead for a theory that attributes a greater degree of reality to prime matter. Both Kristeller and Collins erroneously assume that Ficino endorsed some version of the Thomistic theory of matter; Kristeller does this implicitly by arguing that Ficino held a generic version of the Thomistic theory, whereas Collins is explicit in his assertion that Ficino follow Thomas on prime matter.

IV

The previous section notwithstanding, Ficino can sound a lot like Aquinas in the *Platonic Theology* when he discusses matter. Ficino can appear at times to endorse both of the assertions about prime matter outlined above. He claims that one and the same prime matter functions as the substrate of all material things, that prime matter is ungenerated and uncorrupted, and, at a glance, even that prime matter does not independently exist and that it is completely unintelligible on its own. Concerning matter's existence, Ficino explains early in the first book of the *Platonic Theology* that "what is last, that is, corporeal matter, has to be acted upon by everything. It can never act on anything else of itself, for nothing exists below it which could be the subject of its action."[37] Later, again in Book I, Ficino explains that "matter neither exists of itself—as it is imperfect and does not act of itself—nor does it exist because of the qualities that it itself precedes. Rather it exists because of some form that precedes it."[38] In both of these passages, Ficino appears to attribute a qualified existence to matter, like Aquinas did. In the first passage, he denies that matter can do anything, since nothing exists beneath it that could function as the object of its action; in the second he claims that matter does not exist on its own, but exists in some lesser sense that is dependent on the previous existence of form. Ficino also claims in several places that things are known exclusively through their form, which would seem to imply that formless prime matter is unknowable.[39]

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[35] In his recent introduction to Medieval philosophy, John Marenbon writes that Aquinas' "unique prominence, and his official doctrinal status, reflect post-Medieval developments." John Marenbon, *Medieval Philosophy: An Historical and Philosophical Introduction* (Routledge, 2007), 245.

[36] See John Monfasani, "Aristotelians, Platonists, and the Missing Ockhamists: Philosophical Liberty in Pre-Reformation Italy," *Renaissance Quarterly* 46(2) (1993), 247-276. Monfasani has argued that Franciscan Scotists were prominent in Italy at the end of the fifteenth and the beginning of the sixteenth centuries. Scotist metaphysics, the so-called "*via moderna*," was viewed as superior to Thomistic metaphysics, the so-called "*via antiqua*," when it came to issues pertaining to the creation of the universe, as well as in its capacity to refute the Averroistic doctrine of the unity of the intellect. Scotist metaphysics was even seen as providing a support of the immortality of the soul, even if Duns Scotus himself remained agnostic concerning the possibility of any demonstration of the soul's immortality. Renaissance Scotists argued, on the contrary, that a demonstration of immortality is indeed possible. The Bishop of Padua, Pietro Barozzi, who wrote an edict against the Averroistic position in 1489, was a supporter of Scotist metaphysicians.

Any assertion of an overall doctrinal agreement between Aquinas and Ficino on the question of matter's ontological and epistemic status, however, is largely misguided. In quotations such as those given above, it is not apparent that Ficino is even speaking about prime matter at all, and when he does speak directly about prime matter, he tends to diverge widely from Aquinas in his most basic understanding of it. In the first passage, Ficino is actually speaking about the nature of corporeal matter (*materia corporealis*), which must be distinguished from prime matter (*materia prima*); and the second passage can only be understood in light of a distinction that Ficino marks between what he takes to be the two separate modes of existence that belong to things. It is argued below that Ficino attributes a greater degree of existence to prime matter than Aquinas was ever willing to, and he argues that the infinite receptivity of prime matter is intelligible to God. Both of these claims place Ficino in a tradition of philosophers who have attributed a greater reality to prime matter. This becomes evident even when one notes that even the language and imagery that Ficino uses to describe matter in the *Platonic Theology*—such as the "womb" and "seedbed" of becoming—is in itself an indication of sorts that there is a different concept of matter operating in Ficino than in Aquinas. For example, Ficino says that nature "is art molding matter from within," which is possible because any given form is "hidden in a way in the bosom of matter before it is brought to light."[40] Such language attributes a more robust existence to prime matter. It will be argued below that any perceived resemblance between Aquinas and Ficino results from ignoring several key distinctions that Ficino makes in the *Platonic Theology* regarding matter and its existence.

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[37] Marsilio Ficino, *Platonic Theology*, Vol. 1, 23.

[38] Marsilio Ficino, *Platonic Theology*, Vol. 1, 41.

[39] For instance, in Book X, Chapter V, Ficino explains that "we learn about objects most clearly and most reliably when we think about their rational principles in isolation from the conditions of matter." Marsilio Ficino, *Platonic Theology*, Vol. 3, 159.

Although Ficino frequently uses the concept of prime matter in the early books of the *Platonic Theology*—especially in Book I where he argues for the necessity of an incorporeal for or habit in nature—he gives arguments for its existence in Book V, Chapter IV. These arguments are made in the course of arguing for the governance of soul over matter. In this chapter Ficino furnishes at least three arguments for the existence of prime matter.

(1) Naturam ars imitatur

First, Ficino argues that there must exist a substrate that persists beneath all of the accidental and substantial changes that occur in nature based on an analogy that he finds between art and nature. Ficino states that nature imitates art. Human craftsmen, Ficino reasons, do not have the power to create anything completely from scratch; rather, they take some preexisting bit of matter that is at hand, and imprint in it a form that the matter itself does not possess.[41]

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[40] Marsilio Ficino, *Platonic Theology*, Vol. 2, 57. There are similarities between Marsilio Ficino and Giordano Bruno when it comes to natural change. The robustness of matter appears to have had significant implications for Ficino's view of natural change. A robust prime matter holds the formless seeds of all things, according to Ficino. Bruno also describes natural change as coming "from within" matter, and he goes further in drawing out these implications. See especially the Second Dialogue of Bruno's *De la causa, principio et uno*.

[41] Marsilio Ficino, *Platonic Theology*, Vol. 2, 19. Also see Ficino's discussion of the difference between natural causes and God in Book II, Chapter XI of the *Platonic Theology*. There Ficino explains that "God alone creates the prime matter of bodies and as many essences of minds and rational souls as possible without an intermediary or a substrate." *Platonic Theology*, Vol. 1, 167. A natural cause, on the other hand, according to Ficino, "is a sort of form or power limited in a certain way to producing one particular result, doing whatever it does with all its force and doing it of necessity." *Platonic Theology*, Vol. 1, 165. Natural agents make a particular thing from the materials that are at hand, according to Ficino, and produces its diverse effects from a combination of its own limited power, and the disposition of the matter that it is present working on.

Nature operates in much the same way, according to Ficino, with the exception that the matter that it initially clothes with form is completely formless. Nature does not possess the creative causality to bring the very material substrate of all things into existence from nothing. Instead, it has the power to work with a formless and pre-existing substrate that it fashions into a particular this or that with the guidance of the models of the intelligible forms. In this respect, Ficino's argument resembles Plato's story about the creation of the universe by the Demiurge in the *Timaeus*.[42] The Demiurge does not create the archetypes of the forms themselves, and it does not create the confused matter and the receptacle of becoming in which sensible things become. The Demiurge instead makes use of these raw materials that are present at hand in the construction of the universe.[43] In similar fashion, according to Ficino, nature does not create anything from scratch. Nature works, like Plato's Demiurge, on what is already given, in this case, prime matter. When the substantial change of one element into another occurs, nature does not create the new element entirely from nothing, but from a pre-existing material substrate that is conserved throughout the course of all changes. From these considerations, Ficino concludes that "nature herself, the craftsman of the world, has subject to it a matter that is lacking all forms, but is equally ready to receive all forms."[44]

(2) *From* actus purus *to* pura potentia

The second argument depends on an assumption that is widespread in Ficino's thought, according to which the sundry ontological levels of reality—such as matter, body, quality, rational soul, etc.—stand in a proportional and harmonic relationship with one another.[45] Each genus, according to Ficino, has two extremes and a series of intermediaries that exhibit order and proportion; in fact, all of reality for Ficino is a hierarchy with God standing on one end, and formless prime matter on the other. In this chapter Ficino makes his case for the existence of prime matter very quickly, almost in passing. He explains that "[j]ust as God at the highest level of things is pure act," so there must "be something at the lowest level which is pure potentiality, which needs everything, and which in itself is without form yet capable of taking on all forms."[46] The basic idea is that when one finds that there exists something on one pole of the hierarchy of being (or, for that matter, within each individual hypostasis), then one should expect to find something else, that is the negation of the first, on the other end of the ontological spectrum. When it comes to the question of prime matter's existence, then, Ficino reasons that the existence of pure act implies the existence of something that is in a state of pure potentiality. While pure act has nothing in it that is potential, on the other hand, pure potentiality, or prime matter—even though it exists in a manner that will be explained below—has nothing of actuality, and is therefore in a state poised to receive the forms of all things.[47]

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[42] Plato, *Timaeus*, 28c-30c.

[43] Of *Timaeus* 28c-30c, see Francis Cornford, *Plato's Cosmology* (London, 1937), 37. See also, Michael J. B. Allen, "Marsilio Ficino's Interpretation of Plato's *Timaeus* and its Myth of the Demiurge," in *Supplementum festivum: Studies in Honor of Paul Oskar Kristeller* (Binghampton, NY, 1984), 399-401.

[44] Marsilio Ficino, *Platonic Theology*, Vol. 2, 19.

[45] Ficino's assumption that there is measure and proportion in ontology is evident in his consideration of the various grades of forms in the first book of the *Platonic Theology*. There Ficino argues for the existence of at least three different grades of forms that exist at polar opposites of this hypostasis.

(3) *The Reciprocal Interchange of the Elements*

Finally, Ficino turns to the reciprocal interchange of the elements in this chapter to make his case for prime matter's existence. Ficino claims that by examining the substantial change that occurs when one element becomes another one can catch a glimpse of "this hidden matter" (*latentem hanc materiam*). Ficino turns to the substantial change of the elements as a case study. A correct understanding of the substantial change of some bit of earth into some volume of water, Ficino argues, implies the existence of a formless and impassible prime matter that is conserved throughout all such transformations. Ficino examines the possibility of two alternatives explanations of substantial change: first, either the form of earth remains, in some attenuated fashion, in the newly formed volume of water, or, second, when the form of earth recedes, it is completely replaced by the form of water. The first alternative cannot be the case, according to Ficino, since the form of earth, which is dry, possesses a quality, dryness, which is contrary to the form of water, wetness. Therefore, it cannot be true that the form of earth remains at all in the newly formed water; on the contrary, the earth must be completely eliminated and replaced by the form of water. The material substrate is essentially wiped clean, so to speak, and where the form of earth once was now exists the form of water. When the form of water approaches, Ficino explains, the form of earth "vanishes into the chaos" which contains all those possible forms that are not at the present moment actual, and other forms that are possible and yet will never be actualized.[48] The form of water, however, cannot exist without a material substrate, since there would be no foundation in which the form could take hold. Thus, since the form of water cannot exist without a substrate, and because "no new substrate presents itself" in the course of the substantial change, then it must be the case that the same prime matter "which was the substance for the form of earth now receives the form of water."[49] Even if one form is immediately replaced by another, Ficino thinks that by considering the substantial change of elements, one discovers the necessary existence of a material substrate, or prime matter, that stands beneath and supports all forms equally.[50]

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[46] Marsilio Ficino, *Platonic Theology*, Vol. 2, 19. Also see, Book X, Chapter III of the *Platonic Theology*. There Ficino states that "nowhere will pure act be found, if pure potency can nowhere be found... Therefore simple matter must exist." Ficino is arguing that the fact of pure potency, where the emanation of the light of God's creation ends, would not exist were it not the case that pure act existed. The very existence of pure potency depends on pure act.

[47] For a similar view, See Chapter 16 and 17 of Book I of Thomas Aquinas' *Summa contra Gentiles*.

But why does Ficino insist that "no new substrate presents itself" along with the appearance of each new substance, in this case, water? Why can it not be that a new substrate is created with each new substance? Ficino maintains that the creation of a new material substrate with each substantial change is unacceptable for two reasons: First, one can infer from the first argument, outlined above, that the creation of a new substrate would ascribe to nature the power to create something from nothing, which is wrong, according to Ficino. Nature does not have creative causality. If nature in fact imitates art, then nature does not create something from nothing, as art does not, but makes use of materials that are pre-existing. Second, were it the case that prime matter was annihilated with the form of earth, then the natural change of one thing into another would be directed towards evil, according to Ficino. Something, therefore, must remain when one thing changes into another. Ficino explains the reasoning behind the second point in the following passage:

> Our question is whether it [nature] first reduced that small portion of water to nothing and then produced air, or whether it preserved some of the water. If it reduced the water entirely to nothing, then nature's intention would be directed towards evil. Yet that intention always aims at the good, since it is governed by God's highest goodness. And existence itself, which

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[48] Marsilio Ficino, *Platonic Theology*, Vol. 2, 19.

[49] Marsilio Ficino, *Platonic Theology*, Vol. 2, 19-21.

[50] This argument is attributed to Timaeus the Pythagorean by Ficino. In a note to the text of the *Platonic Theology*, Allen and Hankins explain that Ficino is here referring to 50D-51B of Plato's *Timaeus*.

> is the peculiar gift of eternal God, would be stolen from things at some point by causes subsequent to God.[51]

In this passage Ficino changes the example from the substantial change of earth into water to water changing into air. If it were the case, he reasons, that the water were first reduced to nothing, then nature would tend towards evil, since it would be robbing things of the very existence that is God's alone to give. Furthermore, the natural desire of all things, including nature herself, according to Ficino, "is directed towards the good, that is, towards life, existence and so on, and not their opposites."[52] Even prime matter, which is itself formless, is described by Ficino as being "desirous of the good, namely of form... because it is open to receiving the good, and because it is necessary for a good world."[53] Were nature to reduce something to nothing, according to Ficino, it would prevent it from manifesting the natural appetite that strives for life, existence and the fulfillment of final ends. Ficino continues: "Since things inferior to God do not possess absolute existence, but only qualified existence—such or such existence—, they do not have the power to abolish existence completely, but only a particular mode of existence..." Moreover, Ficino explains that "Natural agents cannot make something out of nothing. For to make something out of something existing is easier than to make it out of nothing."[54] In addition to the natural appetite that aims at the good, Ficino argues in this passage that natural agents do not possess the causal potency to create something from nothing, much less to reduce something to nothing. Nature can only make a particular this, such as water, change into something else that is also a particular this or that.

From these three arguments Ficino concludes that there must exist a formless and impassible prime matter that is without any quality or determination. Matter is not generated or corrupted in the natural course of things, but persists as the substrate beneath all change. Ficino speaks to the impassibility and incorruptibility of matter when he writes that "[m]atter cannot be changed from what it is except by being changed into nothing. Nature does not permit anything to be turned into nothing. So matter does not pass away. Much less will that natural power which rules over matter pass away."[55] Thus, for Ficino, there is one "universal matter, the indifferent receptacle of all forms whatsoever," which "is subject to the universal craftsman of nature."[56] Prime matter, Ficino explains, does not possess any quality or determination, since if it did, he explains, it would not "be fit to receive another form contrary to its own," since the possession of any form would obtrude the possibility of the possession of any other form that has contrary qualities.[57]

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[51] Marsilio Ficino,*Platonic Theology*, Vol. 2, 21.

[52] Marsilio Ficino, *Platonic Theology*, Vol. 2, 25. See the chapter titled "Appetitus Naturalis" of Kristeller's *The Philosophy of Marsilio Ficino* for a consideration of the doctrine of "appetitus naturalis." Also, see Kristeller's "Thomism and Italian Thought," in *Medieval Aspects of Renaissance Learning.*

[53] Marsilio Ficino, *Platonic Theology*, Vol. 1, 87.

[54] Marsilio Ficino, *Platonic Theology*, Vol. 2, 21. Ficino's argument closely resembles an argument made by John Duns Scotus in *Lectura* II.12. Scotus argues for the conservation of matter throughout all natural changes since agents do not have the power to create something from nothing. If there were nothing presupposed for its action, that is, if there was no enduring material substrate, then the agent would be creating something *ex nihilo*.

Ficino devotes the remainder of the chapter to filling in the content of his concept of prime matter. He argues for the unity of prime matter, that is, that the same prime matter serves as the ultimate substrate of all material things.[58] He also argues that prime matter is created and not generated or corrupted. Finally, he explains that prime matter exists in such a way that it is prior to quality, that is, to quantitative extension.[59] Prime matter is the receptacle of not only the forms and qualities that are found in individual material things, but also of the very conditions, such as quantitative extension, that make the existence of such things possible. Ficino explains that "this prime matter is never corrupted because it is the foundation of all of corporeal nature, and were it destroyed, the whole world structure would collapse," and that prime matter does not require "anything else as it seat by whose removal perchance it would plunge into the abyss" since it "is itself the prime foundation of all."[60]

V

However, one should notice that the three arguments examined in the previous section state nothing about prime matter existing in a manner beyond that which Aquinas countenanced. That is to say, everything that Ficino says in Book V, Chapter IV is consistent with the view that prime matter exists only as part of a form-matter composite, and therefore lacks any independent subsistence on its own. There are two further distinctions that are relevant to fully understanding Ficino's theory of prime matter. First, Ficino argues for a distinction between two modes of existence—the absolute and the particular—that belong respectively to that which is created directly from nothing, and that which becomes a particular this or that from a pre-existing material substrate. Second, he distinguishes between prime and corporeal matter, such that the former can exist without participating in a form-matter composite, whereas the later cannot.[61]

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[55] Marsilio Ficino, *Platonic Theology*, Vol. 2, 27.

[56] Marsilio Ficino, *Platonic Theology*, Vol. 2, 19.

[57] Marsilio Ficino, *Platonic Theology*, Vol. 2, 19.

[58] See Marsilio Ficino, *Platonic Theology*, Vol. 2, 23. Ficino explains: "You witness one matter assuming all forms in turn as it rises through rarefaction and sinks through condensation. It is one, therefore, firstly because one matter suffices for one universe; secondly because, being without form, it does not have anything by means of which it can be divided internally into many."

[59] See also Ficino's definition of body in Book I, Chapter II of the *Platonic Theology*.

[60] Marsilio Ficino, *Platonic Theology*, Vol. 2, 23.

Ficino holds that prime matter possesses what he terms the "absolute" or "common" existence that belongs only to those things that are created directly by God, and that come into being without a substrate. Only God has the causal potency to create the absolute mode of existence: "God alone creates the prime matter of bodies," Ficino states, "without an intermediary or a substrate."[62] All other finite things that are a particular this or that—that is, those things that presuppose at least the existence of the material substrate and quantitative extension—have what Ficino calls the "particular" mode of existence. Ficino addresses this distinction in the following passage from Book V, Chapter XIII:

> The existence that comes after nothing is called absolute existence. For immediately after nothing comes existence in its simplicity... For something cannot become this or that or such unless it exists prior to becoming this or that or such. So this or that or such an existence does not follow immediately upon nothing, but comes after simple and absolute existence. Therefore, since it is God's alone to give to all creatures this common and absolute existence, but since this existence comes after nothing and before all modes of existing, then it will be the office of God alone to bring something into existence from nothing in order that what is given first to all things, namely existence itself, may derive from the first cause, and the gifts that are second and third from the causes that follow.[63]

This passage addresses the point made in the first argument for prime matter's existence that was examined in Section IV above. Prime matter is among those things that come into existence directly from nothing. Only God has the ability to bring something into existence from nothing. Human agents, and nature for that matter, do not possess the power to create such existence. The simple and absolute mode of existence, then, belongs to prime matter, among other things, in such a way that it does not depend upon the actuality of a form-matter composite for its existence. Ficino considers prime matter, therefore, to be ontologically independent of form. It exists, albeit next to nothing, even if the actuality of form is missing from it.

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[61] The distinction between prime and corporeal matter, or between primary and secondary matter, is common in Scholastic philosophy. A similar distinction between undesignated and designated matter is also found in the philosophy of Plotinus. See Plotinus, *Enneads*, III.5.6, III.6.10. Also see Lloyd P. Gerson, *Plotinus* (London, 1994), 108-115.

[62] Marsilio Ficino, *Platonic Theology*, Vol. 1, 167.

[63] Marsilio Ficino, *Platonic Theology*, Vol. 2, 81.

Ficino also marks the familiar Scholastic distinction between the two kinds of matter—that is, between prime and corporeal matter. For Ficino, the two grades of matter correspond to the two modes of existence respectively. Prime matter is the ultimate substrate that exists in the absolute sense described above. It is not nothing, but at the same time it stands next to nothing on account of being brought into existence by the unique creative act of God. Prime matter, however, signifies something different from corporeal matter. In the order of causes, prime matter exists prior to corporeal matter as it functions as the substrate of quantitative extension and of the primary qualities. Corporeal matter is something quite different. It is at the very minimum a composite of prime matter and quantitative extension, which Ficino defines as "body" early in the *Platonic Theology* as a composite of prime matter and quantitative extension.[64] But corporeal matter also has specific magnitudes and qualities—that is, things that are a particular this or that. Corporeal matter, therefore, is that kind of matter that is actually found in the material bodies that are experienced in the material world, which possess the particular mode of existence that was spoken of above. Corporeal matter, according to Ficino, is dependent for the form of quantitative extension for its existence, whereas prime matter is not. Ficino explains that "[c]ommon matter can exist without this or that act of existence; but particular matter cannot exist without its own particular act."[65] For Ficino, then, the existence of corporeal matter entails the existence of prime matter as its substrate, whereas the existence of prime matter alone does not entail the existence of corporeal matter. One should note that this distinction is similar to the distinction between unqualified and qualified matter in Plotinus. Plotinus argues that the former is impassible, and that any determination to matter makes it something different from the most fundamental material substrate.[66]

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[64] According to Ficino, Plato defines body as "made up of matter and of quantity. It is characteristic of matter only to be extended by space and affected by action; and extension and being affected are passive conditions. But quantity is nothing but the extension of matter; or, if it is anything else, it is such that it is always subject to division even as it subjects matter to an unending sequence of experiences and has no affect on any other matter than its own. It follow from all this that body in itself does not act but solely is acted upon." Marsilio Ficino, *Platonic Theology*, Vol. 1, 19.

[65] Marsilio Ficino, *Platonic Theology*, Vol. 2, 67.

These two distinctions more or less function together in this way: when an individual person comes to be, such as Plato, we do not say that Plato's father, Ariston, created humanity in an absolute sense, but only that Ariston, who was himself fashioned in a particular kind of matter, "begot this man, Plato, in a particular kind of matter." Nature and finite things in the material world avail themselves of corporeal matter when something is generated or corrupted. They can only work on a matter that is conditioned and prepared in a certain way that makes it ready to receive a form. Prime matter stands beneath corporeal matter and functions as its ultimate subject. Only God can act without any substrate. This is the case, Ficino reasons, because the "distance between nothing and existence is infinite, because there is no ratio at all to existence, and because no greater distance than this can exist or be thought to exist."[67]

In fact, prime matter perhaps has even more reality, on Ficino's view of things, than all the qualities of the material realm, and even the natural body in which they inhere. In the first book of the *Platonic Theology*, in the course of establishing the primacy of immaterial forms, Ficino argues that material forms themselves are of such a nature that they are "contaminated" when they are drawn into "the bosom of matter," and as a result "this sort of form is neither pure nor true nor perfect."[68] Ficino reasons that those things that cannot sustain themselves, cannot actually exist on their own. The qualities or forms of material things do not sustain themselves as much as they "lie fallow in something else," and are therefore "dependent on that something" for their continued subsistence.[69] The something else that Ficino has in mind in this case is prime matter. While qualities do not arise from prime matter on their own, since it has no ability on his view to act by its own power, they are nonetheless taken in by matter and divided by quantitative extension in such a way that they cannot subsist without the material substrate. Therefore, the forms of material things in a sense become material. In Book V, Ficino reiterates his point, and argues that the forms of material things are dependent upon matter as a cause, since "from Matter's teeming womb [they] are delivered in to the light of day like a foetus."[70] Here one finds Ficino departing from Plotinus. Ficino ascribes a robust and entitative reality to prime matter that goes far beyond even the Plotinian theory of matter. Plotinus argues that prime matter has no real claim to being at all, and is in reality veritable non-Being, but Ficino did not draw this conclusion.[71] Ficino holds that matter exists and it has a significant role to play in the structure of the material world that is not limited to functioning as the empty receptacle of becoming.

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[66] Plotinus, *Enneads*, 6.3.10. Plotinus explains that prime matter is the meeting ground of the qualities, that it acts like a mirror, and that it does this without itself ever being altered by the images that it reflects. Plotinus holds that prime matter is completely impassible. Thus, Plotinus argues that whatever is the proximate matter of material things, then, is strictly speaking not prime matter, but something else. Ficino concludes: "Matter cannot be changes from what it is except by being changed into nothing. Nature does not permit anything to be turned into nothing. So matter does not pass away." Marsilio Ficino, *Platonic Theology*, Vol. 2, 27.

[67] Marsilio Ficino, *Platonic Theology*, Vol. 2, 83.

[68] Marsilio Ficino, *Platonic Theology*, Vol. 1, 29.

[69] Marsilio Ficino, *Platonic Theology*, Vol. 1, 31.

So how, then, is one to interpret the apparent resemblance between Aquinas and Ficino on the question of prime matter's existence that was noted above? Simply, throughout the *Platonic Theology*, Ficino does not always specify which type of matter he is speaking about. For the most part, prime matter is called "prime matter," or "common matter" by Ficino, although he frequently calls it simply "matter"; corporeal matter is occasionally referred to as "secondary matter," "particular matter" and "specific matter," as well as just "matter" plain and simple. Ficino holds that prime matter exists without quantitative extension or any quality even if corporeal matter does not. Prime matter possesses the mode of existence that is presupposed in the existence of particular material things. Ficino does not hold that the absolute or common mode of existence is dependent upon any form-matter composite for its existence, even if he ultimately views forms as being more real than matter. Further, unlike corporeal matter, prime matter does not require the material conditions of quantitative extension, or any material quality, for its existence. Therefore, Ficino is attributing a grade of existence to prime matter that Aquinas did not. Both Kristeller and Collins, therefore, were wrong to assert that matter "has no existence of its own," or that existence would "contradict its nature."[72] In this respect, then, Ficino departs from Aquinas, and instead aligns himself with the tradition of philosophers that asserted the basic reality of prime matter.

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[70] Marsilio Ficino, *Platonic Theology*, Vol. 2, 29.

[71] Plotinus, *Enneads*, 10.6.7. Ficino does not refer to Plotinus in his discussion of the existence of matter. He does mention Plotinus in his discussion of matter in Book I, Chapter III of the *Platonic Theology*. Ficino explains that prime matter is not nothing, but is next to nothing, and that Plotinus concluded from this that the "disposition closest to matter, namely dimension and quality, is completely insubstantial and exists, however insignificantly, as a totally passive state." In this passage, however, Ficino is not speaking of prime matter, but corporeal matter. Also, Ficino is referring to Plotinus with respect to his view of the nature of qualities found in the material world. According to Ficino, Plotinus held that they are insubstantial, like "mere shadows that come and go like the reflections of lofty streams in a rushing stream." Marsilio Ficino, *Platonic Theology*, Vol. 1, 41. Lloyd P. Gerson uses a similar image to describe Plotinus' theory of matter: "A succession of forms is understood as a succession of images. It is as if the natural world were a film. One image on a movie screen is not in potency to the next image. Nor are any images actualizations of the screen itself." Lloyd P. Gerson, *Plotinus*, 112.

VI

Ficino has less to say in the *Platonic Theology* about the question of the knowledge of prime matter than he does about its existence. He suggests that his own view diverges from the Scholastic view when he mentions that "[s]ome things are even apprehended through the idea of their opposite, as evil and privation through the idea of good and of habit, or, as some people think, matter through the idea of form."[73] While some philosophers have asserted that prime matter is known by an analogy with form, Ficino employs alternative epistemological methods in the *Platonic Theology*. To borrow a description from Bonaventure, matter is not only known through it relationship with form, but is, for Ficino, grasped in itself as an "intelligible darkness." For Ficino, as for Augustine and Bonaventure before him, matter is grasped in a way through our very ignorance of it, which amounts to a sort of learned ignorance that recognizes that something must exist as the basic material substrate of all things, but which must, at the same time, remain in darkness to our intellect. In the *Enneads*, Plotinus argues that one can know matter in a certain sense, as the eye knows darkness, which he compares to the bastard chain of reasoning that Plato offers at 52b of the *Timaeus* for the existence of the receptacle of becoming.[74]

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[72] Paul Oskar Kristeller, *The Philosophy of Marsilio Ficino*, 39; Ardis B. Collins, *The Secular is Sacred*, 45.

[73] Marsilio Ficino, *Platonic Theology*, Vol. 1, 173.

[74] Plotinus, *Enneads*, II.4.10.

Ficino broaches the question of the epistemological status of prime matter in at least two further ways in the *Platonic Theology*. First, Ficino implies that one can consider the nature of prime matter by appealing to the various relations that exist between the sundry levels of the ontological hierarchy of being. Specifically, Ficino avails himself of the relations and proportions that stand between the various hypostases in order to shed light below, on prime matter, corporeal matter, and quality; and upwards, on the soul, mind and God. In this way Ficino brings prime matter together with the other levels of the chain of being into a meaningful comparison with one another, and from this he draws conclusions about the nature of each. Ficino makes use of this *comparatio* method frequently in the *Platonic Theology*, as when, for instance, he argues for the purity of prime matter. Ficino argues that the order of natural bodies is structured in such a way that it descends to prime matter and ascends to the ultimate form. Ficino explains that the "closer some matter approaches to prime matter, the better, the truer, the purer the matter it is." Likewise, "The closer a form is to ultimate form, the more perfect it is as form."[75] Ficino also thinks a meaningful comparison can be made between matter and soul, since both stand at the bottom most rung of their respective realms, the sensible and the intelligible. As a result, they share some features in common, according to Ficino, and what can be learned about the nature of the one can also be applied to the other. Specifically Ficino has in mind the way in which material forms and ideas exist in each: just as prime matter possesses the forms of all things in potency, so the rational soul possesses the ideas in the same way. While it is not the case, according to Ficino's view, that one can come to know the essence of prime matter directly on this method, nonetheless, features of prime matter are revealed obliquely by making a comparative analysis of the fundamental levels of ontology and their connections.

Ficino also addresses the question of God's knowledge of prime matter in the *Platonic Theology*. He argues that God can possess a certain knowledge of prime matter, even if human beings cannot come to know it in the same way. Ficino argues that God understands infinite things because its infinite power extends through all things. All things are known by God, Ficino argues, irrespective of the way in which they exist, and this includes all things that exist in act and in potency. In the natural world this includes the infinite receiving power of matter, the progression of time and the division of what is continuous, among other things. What exactly Ficino thinks this intellectual vision amounts to, however, remains mostly unclear, save for some cryptic suggestions. In any case, Ficino argues that this view is theologically superior to alternative views since it does not suffer from the "impious error of those philosophers who thought that God sees only what is finite."[76]

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[75] Marsilio Ficino, *Platonic Theology*, Vol. 3, 133.

VII

Ficino describes matter as "kindling" with the forms of all things, and he claims that in formless prime matter "certain seeds of forms lie hidden and ferment."[77] When he uses expressions like these Ficino is generally trying to capture the crackling and latent power that he thinks belongs to both prime and corporeal matter: the imperceptible sparks of all things that kindle in matter await the fanning of soul in order to issue forth from potency into act. The meaning of these descriptions can in part be explained by the doctrine of seminal principles: within the welter of primary and corporeal matter, the seeds of all things ferment and wait for the right time, that is, when the proper material conditions exist, until they come fully into existence as a particular this or that. A discussion of nature's seeds in detail, however, goes beyond the scope of this paper.[78] Suffice it to say, it is in passages such as these—in which Ficino speaks about the potency and fecundity of matter—that he departs the most from the Thomistic view of matter, and where his robust view of prime matter is most evident.

This final section will consider some of the larger aims and purposes that are behind Ficino's frequent speculations about matter in the *Platonic Theology*. Ficino is not interested in prime matter for its own sake; rather, he generally speculates about the nature of matter in an effort to make his case for the primacy of immaterial souls and forms, and by extension, for the immortality of the soul and the supremacy of form.[79] Ficino spends much of the first book of the *Platonic Theology* constructing a concept of prime matter that is devoid of any power to act, or to maintain unity for any amount of time. When matter and body are defined in these terms it becomes necessary for the orderliness of form and the motive power of soul to shape and move matter, if it is to become anything and remain one thing over time. The overall aim of Ficino's concept of prime matter, therefore, is to demonstrate that material things lack persistence and reality, and therefore to "separate [our] rational soul's desire from matter itself," as he writes in the final sentence of the *Platonic Theology*, "so that, to the extent we depart from matter, we may thereby approach God."[80] A consideration of the nature of prime matter is necessary for the soul's ascent from the material to the immaterial realm. He explains that in order "to show clearly how best the minds of men can unlock the bars of mortality, witness their own immortality and thus achieve a state of blessedness," he will attempt to demonstrate "that besides the inert mass of our bodies, to which the Democriteans, Cyrenaics and Epicureans limit their consideration, there exists an active quality or power."[81] If one does not come to a proper understanding of the nature of matter and corporeality, Ficino suggests, then one is in danger of being persuaded by the arguments of the materialists, and of becoming an Epicurean. This is disastrous for Ficino.

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[76] Marsilio Ficino, *Platonic Theology*, Vol. 1, 161. In addition to rejecting the Thomistic view of prime matter, and its claims about the epistemological status of prime matter, Ficino could also have in mind the views of John Wyclif, who argues that there must exist atomic indivisibles because God cannot know things that are infinite. See Emily Michael, "John Wyclif's Atomism," in *Atomism and its Place in Medieval Philosophy*.

[77] Marsilio Ficino, *Platonic Theology*, Vol. 2, 63; and Vol. 1, 87.

[78] See Hiroshi Hirai, "Concepts of Seeds and Nature in the Work of Marsilio Ficino," in *Marsilio Ficino: His Theology, His Philosophy, His Legacy*, 257-284.

[79] Also see Marsilio Ficino's commentary on Plato's *Sophist*. In Chapter 28, Ficino explains: "What is called animate and living body is animate and alive not because of the corporeal mass. Otherwise any body would be living. Therefore, body is animate and lives through some

Not only are all material things—considered in themselves as composites of prime matter, quantitative extension and some quality—passive and inert, but they also lack any unity. The unity of material bodies can only occur on account of some force that is external to matter and body. Ficino argues that corporeal mass is an impediment to the unity of any material body on account of the disparate and inert nature of material bodies.[82] There is nothing about corporeality that holds fast the different parts of a material body, which is by its nature dispersed. Certainly prime matter does not provide any such stability. Ficino grounds this conclusion on three further claims about corporeality. First, he argues that there exists distance between the parts of matter on account of quantitative extension. Second, he argues that material bodies do

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incorporeal nature, namely through the soul itself. Since the soul is everywhere the mover of the body and everywhere its mistress and therefore far more eminent than the body, deservedly it is adjudged to be an incorporeal substance... I have written at length on these issues in my [Platonic] *Theology*." Marsilio Ficino, *Marsilii Ficini Commentaria in Platonis* Sophistam, trans. Michael J. B. Allen, in *Icastes* (Berkeley, 1989), 242.

[80] Marsilio Ficino, *Platonic Theology*, Vol. 6, 219.

[81] Marsilio Ficino, *Platonic Theology*, Vol. I, 15.

[82] See especially Book VI, Chapter VIII of the *Platonic Theology*.

not endure with fixity and stability. Instead they are constantly changing in both perceived and unperceived ways. Third, he argues that all material bodies, in virtue of existing in a material substrate, are always subject to opposing qualities, such as heat and cold, wetness and dryness. From this Ficino concludes that the unity of a material body, be that of a stone or a person, does not come from any corporeal principle on its own; in fact, being extended and assaulted by opposing qualities makes the unity of any material body completely impossible. Given the nature of matter, and corporeality, Ficino concludes that "there must be something in the body beyond the body's nature which unites it, arrests it, and contains it: unites the separated parts, arrests the unending flux, mutually contains by its own simple harmony the body's discordant qualities."[83] A proper, that is, Platonic conception of material things, therefore, reveals that they are completely passive, inert, and lacking in unity, and therefore they are all in need of an incorporeal form and habit.[84]

In addition, the discussion of Book V, Chapter IV aims at supporting the larger argument for the immortality of the soul. In the opening lines of this chapter, Ficino states: "The immortality of the soul is principally shown by the fact that nature's prime matter, which is moved and formed by soul, must itself be perpetual."[85] Ficino claims that since matter begins only by creation and ends only by annihilation, and is therefore perpetual in its existence, then soul, which imparts vitality to and rules over matter, must *a fortiori* be perpetual. As was argued in Section IV above, Ficino held that matter is never reduced to nothing through any natural alteration. If matter is perpetual in its existence, in this manner, then soul must also be immortal, Ficino reasons.[86]

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[83] Marsilio Ficino, *Platonic Theology*, Vol. 2, 171.

[84] G. W. Leibniz's use of Platonism as a bulwark against the rise of materialism resembles Ficino's in the *Platonic Theology*. See G. W. Leibniz, "On Nature Itself," in Philosophical Essays, trans. and ed. Roger Ariew and Daniel Garber (Indianapolis, IN, 1989), 155-167, especially 159-160; Section 20 of the "Discourse on Metaphysics," 53; "Two Sects of Naturalists," 281-284. On Leibniz's Platonic assumptions, see Christia Mercer, *Leibniz's Metaphysics: Its Origins and Development* (New York, 2001), 173-205. Mercer discusses aspects of Ficino's philosophy.

[85] Marsilio Ficino, *Platonic Theology*, Vol. 2, 17.

[86] The theory of prime matter and the immortality of the soul come together in the penultimate paragraph of Book V, Chapter IV, where Ficino concludes as follows: "Matter cannot be changed from what it is except by being changed into nothing. Nature does not permit anything to be turned into nothing. So matter does not pass away. Much less will that natural power which rules over matter pass away. Matter's ruler is the efficient power which gives it form. That power give matter form which first sets it in motion. The source of motion is the rational soul..." Marsilio Ficino, *Platonic Theology*, Vol 2, 27.

It is finally open to speculation as to why Ficino argued for the existence of prime matter, and did not adopt a theory that approximated more closely the Thomistic theory. It is reasonable to think that the robust view of matter appealed to Ficino for at least two reasons that are connected with his broader philosophical aspirations: First, Ficino was motivated to hold a robust view for reasons that are associated with his theology and natural philosophy. The robustness of matter, in Ficino's estimation, is a reflection of God's wisdom. God governs all things with the greatest ease, because "He is not dealing with alien materials which He has received from elsewhere, but with his own materials which He makes Himself."[87] God has designed things such that it does not affect things "from without, but moves them from within," which is the case, according to Ficino, because "He is present in the very heart of all things."[88] God does not work on things from without, as human hands do, but from within, since prime matter has been disposed, by the formless seeds and rudiments of forms, in such a way that it is most ready to have form.[89] The robustness of matter also better accommodates Ficino's natural philosophy, which includes his doctrine of seminal reasons and his view of natural change. For Ficino, when a natural change occurs, it occurs as a result of nature working from within the matter that is at hand, either prime or corporeal. Ficino states that nature moulds "matter from within, as though the carpenter were in the wood."[90] This is possible because there exist the rudiments and seeds of form in both prime and corporeal matter.[91] The robustness of matter is consistent with Ficino's description of the matter as a "womb," and as "kindling" or in a state of "ferment." Ficino conceives that the forms of all things are not stamped on matter as much as they unfold from within the folds and recesses of matter itself according to the rational plan of divine mind and put into action by the motive force of soul. The view that God and nature affect things from within the substance of matter, therefore, required that Ficino hold a robust theory of matter.

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[87] Marsilio Ficino, *Platonic Theology*, Vol. 1, 199.

[88] Marsilio Ficino, *Platonic Theology*, Vol. 1, 199.

[89] See Marsilio Ficino, *Platonic Theology*, Vol. 1, 87 for a discussion of the formless seeds that are found in prime matter. For a discussion of Ficino's view of natural change and its relationship to prime matter, see Chater 4 of James G. Snyder, "Matter and Method in Marsilio Ficino's *Platonic Theology*."

[90] Marsilio Ficino, *Platonic Theology*, Vol. 1, 253-255.

[91] Ficino generally argues that there are three grades of seeds: First, there are the "formless" seeds that reside in prime matter; second, there are seeds in individual bits of corporeal matter; third, there are spiritual seeds that explain the origination of life from brute matter, and the spontaneous birth of organisms where corporeal seeds are missing. See Marsilio Ficino, *Platonic Theology*, Vol. 1, 87, 257.

The idea that matter has something of reality in it, that it possesses the seeds, vestiges or rudiments of forms, may have also been confirmed for Ficino by the history of philosophy itself. That is to say, Ficino may have been convinced of the robustness of prime matter by those philosophers that he thought articulated a *pia philosophia*: By a bastard chain of reasoning, Timaeus argued for the existence of the receptacle of becoming at 52B of Plato's *Timaeus*. In the *Pimander*, Hermes Trismegistus argued that the all of nature is contained, latently, within the welter of the elements, and he describes life as brought forth "from [earth] herself the living things that she held within."[92] Plotinus thought that Plato's discussion of the receptacle of becoming was a discussion of prime matter. Echoing Plotinus, Ficino asserts the fundamental impassibility of prime matter as the meeting ground of all qualities. But unlike Plotinus, Ficino does not claim that prime matter is veritably non-being. Augustine and Bonaventure both believed that nature is conditioned by seminal reasons, and closer to his own time, Franciscan Scholastic philosophers held that matter can exist independent of form, and that it can be known. Each of these philosophers articulated elements of what would become Ficino's theory of prime matter. If anything, the Thomistic interpretation would have, in this light, appeared peculiar to Ficino, an aberration from the view of prime matter of those pious philosophers whom he thought made the crucial turn from material to immaterial things.

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[92] *Hermetica*, trans. Brian Copenhaver (New York, 1992), 3.

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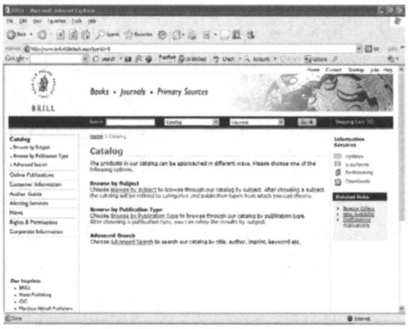

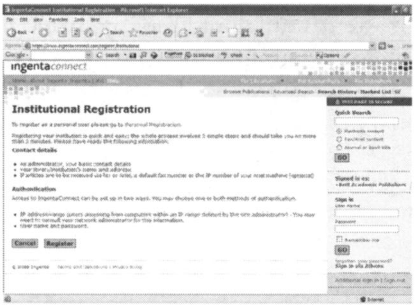

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